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1913 - 1963

KIRSTENBOSCH

JUBILEE

ISSUE

THE JOURNAL OF THE BOTANICAL SOCIETY OF SOUTH AFRICA

Part XLIX - 1963

Edited by H. B. RYCROFT

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Protea repens—the Golden Jubilee emblem

The Journal of the Botanical Society of South Africa

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PART XLIX
1963

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Wyn Hall

1906–1963

The Botanical Society of South Africa has suffered a severe and irreparable loss through the tragic death of Mrs. Wyn Hall, its loyal, energetic and enthusiastic Honorary Secretary-Treasurer for a period of sixteen years.

Those members meeting her for the first time (and, of course, by meeting her they immediately felt they *knew* her) would never forget her cheery words of welcome, her charm and her desire to be of assistance in every possible way. Even those who knew her only through the chatty notes and messages to members could not help but sense the warmth and sincerity of her affection towards the Society and all 'her' members.

At all times Wyn was only too happy to help in furthering the interests of the Society, its members, the Gardens, and everything associated with them. Nothing was ever too much trouble.

At the height of our Jubilee celebrations Wyn was in charge of all the exhibitions and in particular the Botanical Society Wild Flower Show, including a special section for youth.

She was the life and soul of the Society and could always be relied upon to arrange any function no matter how large or small. Now, Wyn has gone and she has left a great gap in 'her' Society. She was involved in a motor accident on 26 July and two days later passed away as a result of her injuries.

We extend our heartfelt sympathy to her husband, Mr. Harry Hall, Senior Horticulturist in charge of the succulent plants at Kirstenbosch. Wyn was not only a charming, vivacious and efficient secretary and organizer but also a devoted wife and mother, and in all these capacities she will be most sorely missed.

H. B. Rycroft

Kirstenbosch.

NEWS AND NOTES

JUBILEE

It is 1963 and the Jubilee Year of the Botanical Society of South Africa and of the National Botanic Gardens of South Africa at Kirstenbosch.

A year of celebrations has been planned, and to date all the numerous functions have been very popular, interesting and well attended.

Exhibition of Kirstenbosch Past and Present

The first exhibition of the year arranged by the Botanical Society of South Africa was entitled 'Kirstenbosch Past and Present', and was held in the Lecture Hall at Kirstenbosch early in January.

The following is an account of the exhibition prepared by Miss M. E. Johns, for very many years Teacher in Charge of the Nature Study Classes at Kirstenbosch:

The work entailed in obtaining exhibits both by the Society and the exhibitors was immense, but the results were most rewarding.

Near the entrance were two enormous embroidered bedspreads, each with indigenous flowers copied so faithfully both in colour and shape by Mrs. M. E. Ereaut of Oudtshoorn when she was nearly 60 years old. These should become State property, they are so excellent.

A model of the Gardens done to scale by Standard IV boys, and the theme work done by the children who come to Kirstenbosch for real live outdoor nature study reflected their interest and enthusiasm and were a great attraction to both young and old.

This does not mean that the other exhibits were of less interest as the paintings of proteas by Fay Anderson, linked up with pressed specimens of each species with the correct name and relevant facts, were outstanding.

That the Gardens had won so many cups, medals and other awards for plants cultivated in Kirstenbosch was an eye-opener for many visitors.

The prehistoric implements picked up in the Gardens from 1913 onwards brought home vividly how different modern garden tools are from the handmade stone axes, digging stones, etc.

Another outstanding exhibit in the centre of the Hall presented Kirstenbosch from 1660 to modern times. Using the *Botanical Society Journal* and other pictures, Mrs. C. E. Hugo focused attention on the early days when Kirstenbosch was a farm, and worked out a history of the Gardens with its three directors, many trustees and important persons in the Botanical Society. This exhibit should become a permanent exhibit in the Gardens it was so interesting.

The work by Mrs. E. du Plessis in obtaining photographs of the early days in the Gardens and having them enlarged and arranged in chronological order was a terrific task and many of the older visitors were often overheard saying to each other: 'Do you remember?'

Mr. Jessop, in his exhibit of some botanists and botanical artists associated with South Africa, presented what promises to become a very valuable collection of photographs which will be of value to all future botanists and historians.

In the entrance hall was an exhibit by the Committee for the Control of Alien Vegetation, those valiant people who want enemy alien vegetation controlled, so that our valuable flora will not be exterminated.

Dr. Broekhuysen's wonderful bird photographs of some of the Kirstenbosch birds drew many a sigh of envy from both birdwatchers and bird photographers. These photographs were all linked by tape with the study specimen of the dead bird.

No record was kept of the number of visitors, but Mrs. Wyn Hall, with this first show organized by the Botanical Society and all her helpers, set a very high standard for the Golden Jubilee Year of the National Botanical Gardens, Kirstenbosch.

Herbarium Exhibition

Miss W. F. Barker, Curator of the Compton Herbarium reports as follows on the Herbarium exhibition:

As a general rule the work done in the herbarium goes on behind figuratively closed doors, in a quiet atmosphere favourable to scientific research, while its precious specimens and books are only available to the trained scientist and senior student.

In order to celebrate the Kirstenbosch Golden Jubilee Year, it was decided that the herbarium would open its doors for a week, and stage an exhibition to enable members of the Botanical Society of South Africa and the general public to see some of the scientific work and research which goes on behind the scenes, and also to acquaint them with the history of the collections, and to display some of the gifts which have been donated to the herbarium at various times.

A pre-view of the exhibition was arranged to which the Trustees, Council of the Botanical Society, the staff of the Bolus Herbarium and the staffs of the Departments of Botany at the Cape Town and Stellenbosch Universities and other botanists were invited, which proved to be a very enjoyable function.

With the serious shortage of scientists in mind, it was hoped particularly to stimulate the interest of students and schoolchildren in systematic botany, as potential scientists of the future, and to demonstrate to them that it is not a dead-end science but has many avenues to explore. With the co-operation of the biology teachers of the Department of Education (Cape), 660 junior and 240 senior schoolchildren and student-teachers were conducted round the exhibition and their enthusiasm and interest were very gratifying and encouraging. A large number of Botanical Society members and the general public also visited the exhibition, which was extended for a few days on request.

The herbarium building with its narrow passages is not an ideal place for staging an exhibition and a considerable amount of improvisation and reorganization was necessary. The result was a creditable one and was achieved by means of the willing co-operation of a large number of people, and thanks are due to all who contributed to its success.

Wreath-laying Ceremony

A wreath was placed on the grave of Professor H. H. W. Pearson to honour the founder of the Gardens on his birth date, 28 January. An account of the function appears elsewhere in this Journal.

Garden Party

In February a Garden Party was held on the lawn at Kirstenbosch when the Patron-in-Chief of the Golden Jubilee, the State President, Mr. C. R. Swart, and Mrs. Swart were the chief guests of honour. More than 1,000 guests, including cabinet ministers, heads of departments and representatives of various countries were present.

In his address, the State President said, 'Kirstenbosch, gestig in die jaar 1913, is gedurende die afgelope vyftig jaar uitgebou tot een van die wêreld se bekendste en beroemdste botaniese tuine. 'n Verwaarloosde boereplaas is omgeskep tot 'n inrigting wat die trots is van Suid-Afrika, hierdie grootste, mees bekende en mees geliefde tuin in ons land.' He went on to say: 'It is very essential, I think, that special steps should be taken in our schools all over the country to instil into our youth a love for the gifts of nature, a realization of what they mean to us and our country and then also the necessity of preservation, coupled with abhorrence of wanton destruction. This festival, in its many forms and phases, will forcibly bring to our minds the richness, beauty and value of our flora and our duty to preserve it, for spiritual enjoyment and material advantage, as a wonderful and unsurpassed heritage of our land and our nation.'

International Flower Show

An International Flower Show was staged in Cape Town's City Hall and the adjacent Drill Hall in March. Apart from the local exhibits, flowers were sent from the United Kingdom, United States of America, Holland, France, Ceylon and Singapore.

This show was opened by Senator Jan de Klerk, Minister of Education, Arts and Science, and also one of the Patrons of the Golden Jubilee, who said, 'The fame of Kirstenbosch is spread far and wide and the display which you see here today is a testimony of the regard in which this institution is held in all parts of the world'.

Special Stamp Issue

The South African Postal authorities issued a special commemorative 2½ cent postal stamp on 14 March in honour of the Kirstenbosch Golden Jubilee. No less than 50 million stamps were printed. The stamp shows, in multicolour, a view of the lawns and gardens with the well-known 'Castle Rock' in the background. Superimposed in the lower portion of the design is a picture of the famous red disa, *Disa uniflora*.

Other Jubilee Functions

Kirstenbosch has been a hive of industry all this year and many other functions have been arranged by the Jubilee Council and by interested bodies, societies and institutions in all parts of South Africa.

Space does not allow for an account of each and every one of these but they have included folk-dancing displays at Kirstenbosch where nine countries were represented, exhibitions of all kinds and competitions.

Visiting Botanists

Perhaps the highlight of the Jubilee celebrations was the visit to Kirstenbosch of nearly fifty leading botanists from all parts of the world in September and October. A very full programme of events was planned for the second half of September in Cape Town and the south-western Cape, the most important being the wild flower show in Cape Town's largest hall at Goodwood. This show was the most ambitious ever staged in South Africa and many districts renowned for their wild flowers arranged their own exhibits.

At the end of September our visitors were taken, as guests of the Jubilee Council, on an extended botanical tour lasting four weeks. The route was through the Little Karoo, Great Karoo, over the Cape mountains, along the coastal belt to the famous Knysna forests and along the Garden Route, through the Transkei, along the coast of Natal and Zululand. The tour included visits to St. Lucia, the Hluhluwe Game Reserve, Swaziland and the Kruger National Park before proceeding through the eastern Transvaal and the 'Highveld' to Johannesburg and Pretoria. Before returning to Cape Town, the party were taken through the eastern and central parts of the Orange Free State and then across the entire breadth of the Great Karoo.

JUBILEE COUNCIL

From the foregoing it will be realized that a tremendous amount of thought and planning has been required to ensure the success of the Jubilee celebrations. My thanks are due to many more than I can possibly mention, but special appreciation is expressed to members of the Jubilee Council and my staff. We were particularly fortunate in obtaining the willing and efficient services of Colonel I. P. S. Terblanche as our Jubilee Director. Without question it can be said that it would have been almost impossible to have found a more hard-working or conscientious person to deal with the organization and the manifold problems which have naturally arisen. He has done a truly magnificent job of work and all are most indebted to him. He has been ably assisted by Mr. and Mrs. P. Kuhn, who have also taken a very real and keen interest in the whole undertaking. To them, too, we are very grateful.

Associate Membership of the Society

Very few societies can claim, like we can, that there has been no increase in membership subscriptions during the last sixteen years. Costs of administration, stationery, postages, printing, etc., have been rising steadily.

Instead of increasing subscriptions it was suggested that Associate Membership (which costs only R1, or 10 shillings) be discontinued. After further discussion, however, it was decided not to discontinue this class of membership but to withdraw the offer of free seeds to such members. Existing Associates will be entitled to their quotas of seeds for 1964 only. It is suggested therefore that those still wishing to receive seeds should transfer to Ordinary Membership at R3 (£1 10*s.*) per annum. The allocation would then be increased from 5 to 15 packets each year. It is regretted that this step had to be taken and we trust that existing and prospective Associates will realize that mounting costs have made it necessary.

Donations in Memory of Wyn Hall

Since the tragic death of our Honorary Secretary many members have sent donations to the Society with the request that they form part of a special fund to be created in her memory. The Council of the Society has agreed that such a fund be inaugurated but has not finally decided for what purpose it should be used.

Members still wishing to contribute should send their donations to the Botanical Society of South Africa, Kirstenbosch, Newlands, C.P., South Africa.

Obituary

The Society regrets to announce the death of the following members.

Dr. A. V. Duthie—10 August 1963—was a Life Member of the Society. She was awarded the degree of Doctor of Science for her work on the flora of the Stellenbosch district.

Mr. E. W. McL. Thomas—21 June 1962—was a Member of the Botanical Society Council, 1936–43.

Mrs. E. B. Hewat—28 July 1962—Mrs. Hewat was the widow of the noted South African educationist, Dr. Bennie Hewat.

Mr. F. G. Connock—13 August 1962— who was a Life Member of the Society, was a great public benefactor, and a pioneer of the motoring trade in South Africa.

Fame—34 Years Ago

We all know that Kirstenbosch Gardens have been internationally famous for many years and I have recently been shown a letter, dated 17 January 1929, which contains a reference to Kirstenbosch made over thirty-four years ago in New Zealand.

At that time Miss Bina Martin, now Secretary of Kirstenbosch Gardens, and a friend of hers, were apprentices in the Dunedin Botanic Gardens working under the late David Tannock. They were on holiday and stopped for lunch one day at a little hotel right away in the wilds of New Zealand and noticed that a fellow-traveller had signed the Visitors' Book: 'J. Pinckerton—Johannesburg.'

Later, her friend came along in great excitement and said: 'Oh!—Miss Pinckerton is *so* interesting—you must sit next to her on the way home. She knows Cape Town and *has even been to the famous Kirstenbosch Gardens* and she wants to climb Ben Lomond with us tonight.'

Fiftieth Anniversary

To mark the 50th anniversary of the establishment of the National Botanic Gardens of South Africa and of the Botanical Society of South Africa, a series of competitions for the school-going youth was arranged by the Jubilee Youth Celebrations Committee. The object of the competitions was to focus the attention of the youth of South Africa on our wonderful floral heritage and on the necessity for the preservation thereof for posterity.

Over 500 entries were received for the various art sections and over 260 in the sections which included essays, poems and themes in both English and Afrikaans.

J. W. Mathews Trophy

The J. W. Mathews Trophy for the best illustrated notes on six South African plants of historical or economic importance to South Africa was awarded jointly to Lesley Muller, Collegiate School for Girls, Port Elizabeth, and Elizabeth Hvarnes, Wynberg Girls' High School.

The J. Sauer van Pletsen prize was to be shared between Judy Harris and Pierette Roos, both of Wynberg Girls' High School.

JUBILEE MESSAGE

from Dudley R. D'Ewes
President of the Botanical Society

When this Journal appears we shall have experienced the climax of South Africa's floral year—the Spring Wild Flower Show in which Boland, south-western and eastern Cape districts will have co-operated with Kirstenbosch to glorify our flora; and the visit of eminent botanists from many other countries, to whom it was our privilege and pleasure to show the country whose botanical riches were made known by Thunberg, Masson, Burchell, Zeyher and many others.

I have personally enjoyed the celebrations of our golden jubilee, while fully sharing the anxieties inseparable from such an enterprise. But throughout all present enjoyments and anxieties I have been constantly aware, and have sought to keep others aware, that the whole object of the celebrations has been to strengthen the Society and fortify the resources of the National Botanic Gardens to embark on another half-century of service to our country's floral beauty and botanical renown.

JUBILEUMBOODSKAP

van Dudley R. D'Ewes
President van die Botaniese Vereniging

Teen die tyd dat hierdie publikasie verskyn sal ons die hoogtepunt van Suid-Afrika se blommejaar bereik het—die Lenteveldblommeskou waaraan al die Bolandse, suidwestelike en oos-Kaaplandse distrikte met Kirstenbosch saamgewerk het om ons blommeprag te verheerlik; en die besoek van die vooraanstaande plantkundiges uit verskillende lande, aan wie dit ons voorreg en genoeë was om die land, wie se plantkundige rykdom deur Thunberg, Masson, Burchell, Zeyher en baie ander bekend gemaak is, te toon.

Persoonlik het ek die Goue Jubileumfeesvierings geniet en terselfdertyd die bekommernisse wat met so 'n onderneming gepaard gaan, gedeel. Deur al die genietinge en bekommernisse was ek deurgaans bewus, en het gepoog om dié besef by andere tuis te bring, dat die hele doelstelling van die feesvierings is om die Vereniging te versterk en om die hulpbronne van die Nasionale Botaniese Tuine aan te vul ten einde nog 'n halfeeu van diens aan ons land se blommeprag en plantkundige roem te lewer.

Garden party on the lawn at Kirstenbosch.

KIRSTENBOSCH GOLDEN JUBILEE

1963

This being the Golden Jubilee year of both the National Botanic Gardens of South Africa, Kirstenbosch, and the Botanical Society of South Africa, it is only fitting that a message of good wishes be addressed by the Kirstenbosch Jubilee Council to all members of the Botanical Society, wherever they may be.

I always refer to the Botanical Society of South Africa as the co-founder of Kirstenbosch, for had it not been for such a large number of good men and women coming forward in 1913 to lend support to the establishment of our lovely Kirstenbosch, South Africa might not have been able today to boast of such a national heritage.

It is indeed gratifying to note that even today the members of the Society are prepared to answer any call from Kirstenbosch, as has been demonstrated by the appeal for donations to our Jubilee Funds. In this connexion I should like to express the sincere appreciation of the Jubilee Council for the very generous support from members. It was far beyond all expectations.

I should personally also like to express my appreciation of the assistance and support I received from so many members, not only those in and around Cape Town but also far afield, as I travelled in connexion with Jubilee matters. The moment I met a member of the Botanical Society anywhere I knew I had a sincere friend and could rely on absolute support.

I should like to pay a very special tribute to the late Hon. Secretary of the Society, Mrs. Wyn Hall, who was always a tower of strength in all our Jubilee undertakings. Nothing was ever too much for her to tackle. Her sudden passing under such tragic circumstances has been a great loss to the Jubilee Council and, I am sure, the Botanical Society and Kirstenbosch as a whole. In fact, one of the beautiful flowers of Kirstenbosch has been picked. We must, however, console ourselves with the fact that when we go into our gardens we pick the best flowers for our homes and should therefore not expect the Creator of the Garden of Eden to pick the withered and drooping heads. Her vivacious enthusiasm and sparkling personality had become a legend among flower-lovers, and indeed South Africa is the poorer for the loss of this tireless worker in the service of its natural flora.

May I be permitted to appeal to all members, particularly those in South Africa, to do whatever they can to persuade our people to appreciate, cultivate and preserve our flora. Particularly the youth of our country should be educated to this end, and I urge that members who have knowledge and ability should make a point of giving special talks on this subject to schools, youth organizations, etc.

The forthcoming visit to South Africa of a number of international botanists from many parts of the world has created considerable interest in our flora, and we should all seize this opportunity to make our flora better known and respected throughout the world.

I wish all members, old and new, every success in the future.

I. P. S. Terblanche,
Jubilee Director.

Kirstenbosch,
5 August 1963.

KIRSTENBOSCH GOUE JUBILEUM

1963

Aangesien 1963 die Goue Jubileumjaar van beide die Nasionale Botaniese Tuine van Suid-Afrika, Kirstenbosch, en die Botaniese Vereniging van Suid-Afrika is, is dit vanpas dat die Kirstenbosch-Jubileumraad 'n boodskap van goeie wense aan alle lede van die Botaniese Vereniging stuur, waar hulle hul ook mag bevind.

Ek verwys altyd na die Botaniese Vereniging van Suid-Afrika as die medestigter van Kirstenbosch, want as dit nie vir die groot aantal ywerige mense was wat in 1913 na vore getree het om die daarstelling van ons pragtige Kirstenbosch te ondersteun nie, sou Suid-Afrika moontlik nie vandag kon spog met so 'n volkserfenis nie.

Dit is waarlik verblydend om te sien dat selfs vandag lede van die Vereniging bereid is om enige wekroep van Kirstenbosch te beantwoord, soos reeds bewys is deur die onlangse oproep om skenkings aan die Kirstenbosch-Jubileumfonds. In hierdie verband wil ek die opregte waardering van die Jubileumraad vir die gulhartige ondersteuning van lede uitspreek. Hul samewerking het alle verwagtings oortref.

Ek wil ook my persoonlike waardering uitspreek vir die hulp en ondersteuning wat ek van so baie lede ontvang het, nie net in en om Kaapstad nie maar ook waar ek wyd en syd in verband met Jubileumsake gereis het. Die oomblik dat ek 'n lid van die Botaniese Vereniging ontmoet, dit maak nie saak waar nie, weet ek dat ek 'n opregte vriend gevind het en op volle ondersteuning kan reken.

Ek wil spesiaal hulde bring aan die gewese Ere-Sekretaresse van die Vereniging, wyle mev. Wyn Hall, wat altyd 'n steunpilaar in al ons Jubileumondernemings was. Niks was ooit vir haar te veel om aan te pak nie. Haar skielike heengaan onder sulke tragiese omstandighede, is 'n groot verlies vir die Jubileumraad en sekerlik vir die Botaniese Vereniging en vir Kirstenbosch as 'n geheel. Een van Kirstenbosch se blomme is in der waarheid gepluk. Ons moet ons egter daaraan troos dat, wanneer ons in ons tuine blomme vir die huis pluk, ons die beste uitsoek en ons moet dus nie verwag dat die Skepper van die Paradys altyd net die verwelkte en verweerde blomme moet pluk nie. Haar opgewekte entoesiasme en sprankelende persoonlikheid het 'n legende onder blomliefhebbers geword en Suid-Afrika is voorwaar armer met die verlies van hierdie onvermoeide werkster in die diens van ons inheemse flora.

Mag ek 'n beroep op alle lede, veral dié in Suid-Afrika, doen om alles in werking te stel om ons mense te kry om ons flora te waardeer, te kweek en te bewaar. Veral die jeug van ons land moet in dié rigting onderrig word, en ek sou graag sien dat lede wat oor die kennis en bekwaamheid beskik, spesiale lesings en praatjies oor hierdie onderwerp aan skole, jeugorganisasies, e.d.m. lewer.

Die besoek binnekort aan Suid-Afrika van 'n vyftigtal beroemde plantkundiges vanuit baie wêrelddele, wek geweldig baie belangstelling in ons flora en ons moet almal hierdie geleentheid aangryp om ons veldplante dwarsdeur die wêreld beter bekend en bemind te maak.

Ek wens alle lede, oues en nuwes, alle sukses in die toekoms toe.

I. P. S. Terblanche
Jubileumdirekteur.

Kirstenbosch,
5 Augustus 1963.

Wreath-laying ceremony on the grave of Professor H. H. W. Pearson.

TRIBUTE TO THE FOUNDER OF KIRSTENBOSCH GARDENS

H. B. RYCROFT

On 28 January 1963 a sincere and solemn event took place at Kirstenbosch. It was the laying of a wreath on the grave of Professor Harold Pearson on the ninety-third anniversary of the date of his birth.

In colourful academic dress a procession including the Mayor of Cape Town, members of the Gardens staff and of the Botany Department of the University of Cape Town, as well as some people who had known Pearson moved from the Gardens office to the grave. The Ven. Archdeacon C. T. Wood and Cmdt. the Rev. C. Scott-Shaw read suitable passages from the Scriptures and offered prayers, and Professor Rycroft laid a wreath on the last resting-place of the founder of the Gardens.

The following is the tribute paid by the present Director:

IT is right and proper that at the very commencement of our Jubilee Year we should remember the creator and founder of these Gardens. Had it not been for the foresight, determination, tenacity of purpose, ambition, and the persuasiveness of Professor Pearson it is possible that these Gardens would never have been established and it is certain that in 1963 we would not be celebrating our Golden Jubilee.

We are gathered beside the grave of Henry Harold Welsh Pearson. It is not an open grave nor are we here to mourn. The grave is closed, and we are gathered together to honour and to pay tribute to the founder and first Director of these Gardens on this, the ninety-third anniversary of the date of his birth.

From the time of Burchell the idea of starting a Garden for the cultivation and preservation of our own unique flora was often suggested, but the country was to wait 100 years for a man of the calibre of Pearson to transform vague ideas into lasting reality.

Pearson het sy Suid-Afrikaanse loopbaan in 1903 begin, toe hy aangestel is as die eerste Harry Bolus-professor in Plantkunde aan die Suid-Afrikaanse Kollege (tans die Universiteit van Kaapstad). Hy het nie hierdie pos neergelê toe hy die Tuine begin het nie, en vandag bestaan die noue verbinding tussen Kirstenbosch en die Universiteit van Kaapstad nog steeds: Die Direkteur van die Nasionale Botaniese Tuine van Suid-Afrika is ook Harold Pearson Professor in Plantkunde aan die Universiteit van Kaapstad.

It was a sad day when Pearson died in 1916, less than four years after he had started operations at Kirstenbosch. During those few years, which were difficult years because World War I was raging, Pearson set to work in earnest, and tremendous progress was achieved. He laid the pattern of the Gardens on firm and sound lines. His main botanical interest was in the gymnosperms, which evolved long before the flowering plants were developed, and it is fitting that he should have concentrated on these primitive plants in the very first days of the Gardens by establishing above the Dell the most comprehensive collection of South African cycads in the world. It is also appropriate that his resting-place should be near the particular area he developed and loved so well.

There are several present today who knew Pearson personally, and I am sure they will all agree with me when I say that he was a man of singularly attractive personality, who retained the enthusiasm and brightness of youth throughout his life, and who had ambition, foresight, infectious enthusiasm and sterling character. Also, and to my mind this is very important, he was a serious and capable scientist and research worker. His short life was spent in the service of Science, and he laboured to the utmost of his capacity for the good of the country of his adoption.

The writer of an *In Memoriam* article shortly after his death truly said: 'The best memorial that can be raised to him is to see that his work at Kirstenbosch is carried on, and the National Botanic Gardens of South Africa made what he pictured them in his mind's eye. That is the way to perpetuate his memory, for as long as Kirstenbosch exists there will be linked with it the name of its founder—the scholar and gentleman, Harold Pearson.'

Professor A. C. Seward of Cambridge, under whom Pearson was a student, wrote: 'He enriched the world by deed and example; his pioneer work has made the path smooth for those who follow him, but it will be their responsibility and privilege to do their best to maintain the high standard represented by Pearson's work for Botany and for the common life of the Colony.'

Professor R. H. Compton followed him and for a period of thirty-five years was a worthy successor. And now, as third Director and as Harold Pearson Professor of Botany in the University of Cape Town, I humbly place on your behalf and on my own this wreath on the final resting-place of the founder of the Gardens, appreciating the trust that has been placed in me and fully realizing my serious obligations.

In remembering the name and work of Harold Pearson and in asking for the guidance, loyalty and co-operation of my trustees, my staff, my colleagues and the people of South Africa, I dedicate myself, with the help of God, to follow, to the best of my ability, in his footsteps and in the continuance of his ideals.

SEED DISTRIBUTION, 1963

SPECIAL NOTE

Your copy of the 1964 seed list is enclosed with this Journal, together with an addressed envelope to the Director, National Botanic Gardens. PLEASE NOTE THAT SEEDS WILL ONLY BE DISTRIBUTED FROM JANUARY TO APRIL EACH YEAR, NEW MEMBERS JOINING MAY–SEPTEMBER INCLUSIVE, MAY, HOWEVER, APPLY FOR SEEDS DURING THE MONTH OF SEPTEMBER. It is sincerely regretted that seed requests received after these dates cannot be dealt with until the next distribution period. Your kind attention to this would greatly help the staff at Kirstenbosch and would eliminate a great deal of correspondence which, owing to the number of requests received, is quite impossible to deal with. Please, therefore, do not forget to send in your request for seeds at the correct time.

A CALIFORNIAN'S IMPRESSIONS OF SOUTH AFRICAN VEGETATION

William S. Stewart
Los Angeles State and County Arboretum, Arcadia, California

Living in California, within 20 miles of Hollywood, we at the Arboretum in Arcadia should be specialists in the use of superlatives. However, the vegetation of South Africa in the spring even defies the adjectives used by the motion-picture publicists in their wildest ecstasies of enthusiasm. To a botanist, the vegetation in South Africa yields the greatest variety per square mile of any place on earth, and we had the privilege of enjoying it at its peak perfection.

Under the auspices of the United States–South Africa Leader Exchange Programme, Mrs. Stewart and I made a tour of the Republic of South Africa in September, October and November of 1961. We purchased a small car in Johannesburg and proceeded to log some 11,000 miles, not including a rare and exciting trip into the Richtersveld area.

Prior to our tour, I had studied the flora of South Africa, primarily through Mr. John Hutchinson's book, *A Botanist in Southern Africa* and it was a great satisfaction to see many of the same sights that he had described. It was among our objectives to observe the various vegetation types of South Africa and compare them with types in southern California. Other objectives were to collect specimens for use in the herbarium at the Los Angeles State and County Arboretum in Arcadia, to collect seeds of plants new to us, and, even more important, to make contacts with horticulturists and botanists in South Africa for future seed exchanges.

When we were preparing to depart from Johannesburg for the drive to Cape Town, various people commented on the uninteresting trip we would have through the hundreds of miles of 'dreary' Karoo vegetation. Being accustomed to wide open spaces in our own south-west, we had not been concerned about this portion of the trip where one can look for many miles, and see 'nothing'. In actuality, the augury of a tedious trip could never have been more completely wrong. Among the pictures that we show our friends in the United States is the Karoo of South Africa vividly illustrated in kodachromes with the highway bordered on either side with mile after mile of dimorphotheca and gazanias. The contrasting colours of orange and white, along with the small low shrubs, present a landscape that is a delight to see. We also show the very low rolling practically treeless hills of the southern Karoo, carpeted with hundreds of acres of gazania. Here in southern California, not more than twenty years ago, it was quite possible to see similar landscapes carpeted with our California poppy (*Eschscholtzia californica*) rather than the golden gazania. Superficially the effect is very similar, with their same colour of flowers and the same contour of hill and mountain. Over and over during our drive from Johannesburg to Laingsburg we would comment on how similar to our own south-west the terrain appeared. New Mexico and parts of Arizona would be quite at home in the Great Karoo.

An exciting change in appearance came as we entered the Little Karoo. Here the lampranthus shrubs, just coming into bloom, were breath-taking in their display. Scattered between them we still had the delightful South African annuals which we enjoy and grow so carefully in our gardens here in southern California. Approaching the Matroosberg we were pleasantly surprised to find splendid snowfields. Then dropping into the Worcester area, many pictures were taken of the intense vivid colours displayed by the succulents growing in the Karoo Gardens branch of the Kirstenbosch Botanic Garden. Our introduction to the wonders of the Cape floral kingdom occurred when this doorway of the Karoo Branch Garden opened to us.

Leaving the vibrant display, we drove farther south through the Du Toit's Berg where we recognized our first proteas. We stopped the car frequently, taking pictures of *Protea repens* from every possible angle! Approaching the summit of Du Toit's Kloof we were entranced by the view south over the Paarl Valley and on beyond to familiar Table Mountain complete with 'tablecloth'.

The vegetation here we recognized as being the 'fynbos'. It was very reminiscent of our own chaparral-covered slopes. In southern California, we frequently refer to the chaparral as the 'elfin forest'. Certainly the same term might be used to describe much of the fynbos of the western Cape clothed with its verdant brush. With our chaparral, as with the veld in this district, there are no conspicuous tall trees. In the Du Toit's Berg perhaps the tallest shrubs we saw were proteas not exceeding 15 feet in height.

Imagine our delight on that wonderful Sunday afternoon when we arrived in Stellenbosch to find that if we hurried we would be able to visit Caledon and enjoy the celebration of their 150th Anniversary Festival Wild Flower Show. Though we had already travelled many miles that day, we stopped in Stellenbosch only long enough to make hotel reservations and pushed on, immediately, to Caledon to feast our eyes on as unusual a collection of flowering material as we have ever seen. To one from the Northern hemisphere, where few members of Proteaceae are found, it was truly enchanting to see the variety of flowers on display from this unique family. We returned to Stellenbosch that night very grateful to be in such a wonderful botanical paradise as South Africa and to have had a part in the Caledon Anniversary.

It was next morning that I headed north toward Springbok to join Mr. van Breda for a trek into the Richtersveld. Here again, I was reminded continually of the similarity in the appearance of the vegetation with places in our south-west. Barren flat lands adjoining the Orange River were suggestive of some of the areas we refer to as 'desert paving' in our own Imperial Valley near the Colorado River. The regions covered with succulents of various kinds extending back from Port Nolloth were quite similar to some of our own coastal strand associations. True, the individual plants comprising these associations were completely different in South Africa from those in southern California, but to the eye the landscape gave much the same appearance of texture, colour and form. We were astonished to find trees that were in actuality aloes. *Aloe pillansii*, *Aloe dichotoma* and many others were a contrast to the small shrubs of this family that grow native in our south-west. These interesting tree-like aloes seemed, in some ways, to have their counterparts in our 'Joshua-trees' (*Yucca brevifolia*) and even to some extent in the giant saguaro cactus (*Cereus giganteus*) of our Colorado Desert. The dryness and occasional hot days in the Richtersveld area were also similar to early spring days in our own homeland deserts.

Returning southward toward the Cape Province, we spent some time collecting and botanizing around the Clanwilliam area. It seemed to both Mrs. Stewart and me that this particular portion of South Africa was every bit as much 'Californian' in aspect as California itself. The growth here was about the same density as in most of our own mountain foothill districts. Perhaps it was the presence of the orange groves in the Clanwilliam area that made it particularly seem as though this was 'home'. Certainly here, as everywhere in South Africa, the hospitality and cordiality with which we were received invariably made us feel very much at home.

Crossing over the Olifants River Mountains the rolling farmlands and grainfields suggested central California. Individual plants, however, told us a different story. The wild *Gladiolus* *tristis*, the numerous bulbous plant species coming into bloom, the proteas, leucospermums, all contributed to make it a dazzling scene. We seemed to be continually exclaiming in amazement over some old plant friend which we carefully nurture in our gardens in southern California but found growing here in its native habitat.

The outstanding memory of our sojourn in the Cape Province was visiting the National Botanic Gardens at Kirstenbosch.

The fame of Kirstenbosch is known throughout the world and it has become a pattern for native plant botanic gardens everywhere. However, the first three times we sought to have a full day at Kirstenbosch we were rained out on each occasion. These were not small drizzles but the rain came down in bucketfuls, or to borrow a South African expression, there were 'bags' of rain. The weather eventually moderated and we enjoyed repeated visits through this outstanding garden. It was here, in conversation with Professor Rycroft, that I began to feel better about the difficulties we have had with the silver tree (*Leucadendron argenteum*) dying in the course of a few weeks here in southern California. For us, the silver tree grows remarkably well, especially close to the coastline. However, sizeable mature trees up to 15 or 20 feet in height will, without any apparent warning, die in less than a month. Apparently, this is not an uncommon happening on Table Mountain itself, and may be due to root-invading fungi.

We felt fortunate to participate in the Annual Meeting of the South African Botanical Society and were very impressed at the informative display of 'alien weeds' which were shown in front of the Lecture Hall building. The plantings of Dorotheanthus, Greyia sutherlandii, and of course the collections of Proteaceae, many in bloom, were always of special interest to us. In fact there was always so much to absorb it was difficult for us to feel satisfied that we had ever, really, fully seen Kirstenbosch.

Without doubt Cape Town and environs offer as beautiful landscapes and displays of vegetation as one can find anywhere in the world. From Ceres and Tulbagh to Caledon and Bredasdorp and all of the country in between, particularly along the coast, the array of plants literally defies description. We were very fortunate to visit this area at a time of maximum bloom. Between frequent rain-showers, the days were clear and the sky blue as blue can be. Certainly, a far cry from the 'smog' which we have had develop in southern California due to our increase in population during the last twenty years. It is of interest to think for a moment that in southern California in an area about 150 miles in length by 225 miles in width we have a population of nearly 10,000,000 people. From this land area deduct many square miles for the Colorado Desert which is sparsely settled and a sizeable area also for our almost uninhabited forest lands which extend from about 4,500 to 11,000 feet in elevation and you have some appreciation of the crowded land conditions facing us in southern California. In contrast, your beautiful South African landscapes and your attractive countryside seemed spacious and uncrowded.

To compound our problems in southern California, we have no suitable means of mass public transportation. As a consequence, nearly everyone here has at least one automobile and many families have two or more. For these reasons, on days when there is little breeze or air movement, the exhaust gases stagnate and, by action of our intense sunlight, produce an eye-smarting compound which we recognize as 'smog'. With this small background on perhaps the most unpleasant aspect of our living in southern California, you can understand why we so fully enjoyed our all too brief visit to the beautiful Cape Province region.

The beauty and durability of your proteas and leucospermums have made us anxious to learn how to establish these plants in southern California. To my knowledge, at the present time, there are only five people in all of California who grow proteas and of these two are in northern California. With such a limited number of growers, I believe we shall have to organize a Protea Society in southern California, with the objective of learning how to cultivate proteas in our climate.

What a choice bit of heaven on earth is the Cape Province!

It was with reluctance that we left the Cape Peninsula and drove eastward along the Garden Route only to find another wonderland. Through the famous Addo bush to Grahamstown, where we had a brief tour of the Fish River Valley and on to the East London area; then through Natal and Transvaal returning, eventually, to Johannesburg. Everywhere the great diversity of the South African vegetation types, landscapes and scenes was emphasized.

Our conclusion now, some eighteen months after this most wonderful trip through South Africa, is that it is truly a botanist's paradise. We feel very privileged to have had the opportunity to see the rare and unique flora of this glorious land. It seems to us very fortunate that those who preceded the present generation established the Kirstenbosch Botanic Garden to study, guard and conserve this rare and wonderful flora.

Botanical Society of South Africa

CALENDAR OF MEETINGS FOR 1963

Saturday, 12 *January*, 3 *p.m.*—The Lawn, Kirstenbosch—Special Gathering for visiting members.

Saturday, 2 *February*, 7 *p.m.*—Braaivleis at Kirstenbosch. (Coffee only provided.)

Saturday, 23 *February*, 3 *p.m.*—'Visit to a Member's Garden'—Mr. and Mrs. M. Penny, 'Green Pastures', Constantia. Cars meet Constantia Nek/Hout Bay Road, 2.45 p.m.

19–20 *March*—INTERNATIONAL FLOWER SHOW, City Hall, Cape Town.

Tuesday, 26 *March*, 8.15 *p.m.*—Lecture Hall, Kirstenbosch—Annual General Meeting—'Searching for the Lost and the Rare', by Stuart Macpherson.

19–21 *September*—SPRING AND WILD FLOWER SHOW, Showgrounds, Goodwood, Cape.

Tuesday, 24 *September*, 3 *p.m.*—Karoo Garden, Worcester—Annual Visit with Overseas Botanists.

Saturday, 28 *September*, 3 *p.m.*—The Lawn, Kirstenbosch. Annual Gathering of Members.

1964

Saturday, 11 *January*, 3 *p.m.*—The Lawn, Kirstenbosch. Special Gathering for Visiting Members.

Members are cordially invited to bring their friends to the meetings. Please telephone Secretary re visits to Members' gardens.

HAVE YOUR FRIENDS JOINED THE SOCIETY YET? IF NOT, WHY NOT?

HYBRIDS OF EURYOPS IN KIRSTENBOSCH

BERTIL NORDENSTAM

THE genus *Euryops* belongs to the daisy family (*Compositae*) and comprises about 75 species, most of which are confined to South Africa. Oddly enough, the greatest concentration of species is to be found in the Sneeuwbergen area, and the Drakensberg range also has many representatives. Thus the genus cannot be regarded as belonging to the typical Cape element, to which belong many well-known genera and families, massed in the wonderfully rich south-western Cape. In spite of this, some of the best-known species of *Euryops* occur in the Cape proper. Almost all species are shrubs with brilliant yellow flowerheads, and many visitors to Table Mountain must have enjoyed the sight of *Euryops abrotanifolius*, which in July to November decorates the lower slopes of the mountain with a dazzling yellow. Like most other species of the genus, this shrub is rich in resin, which sometimes appears as blobs on the stems and twigs. This fact was well known to the early settlers, who named the plants 'resin-bush', 'harpuisbos', or 'rapuis'. Like most common names, these designations are rather vague and loosely applied to different species in different parts of the country, and the only reliable nomenclature is, as always in the plant world, the Latin.

The only other species in the Cape Peninsula is the beautiful *Euryops pectinatus*, sometimes called the Table Mountain daisy. It only displays its showy flowerheads in October to December, but the dense shrubs with their silvery grey foliage are decorative all the year round, and may be enjoyed on a cableway ride up Table Mountain. The species prefers the higher and more rocky parts of the mountain, and can also be seen on the very plateau, in rocks and crevices quite close to the upper cableway station.

In Kirstenbosch the visitor can enjoy the wealth and beauty of the South African flora without laborious effort and expensive travel. In this unique botanical garden several species of *Euryops* are grown. Apart from the two species mentioned, one of the most conspicuous is *Euryops athanasiae*, a tall shrub with among the largest flowerheads in the genus. It has recently, and well-deservedly, become more popular in cultivation, and now gilds the roadsides in parts of the De Waal Drive and the National Road between Bellville and Paarl. This species is also successfully cultivated abroad, e.g. in Australia, California, and southern England. Its natural home is in the Piketberg and Clanwilliam divisions, and many a motorist must have admired its beautiful display of showy flowerheads in July to October all the way from Grey's Pass to Clanwilliam.

Perhaps the commonest *Euryops* in Kirstenbosch is a grey-leaved dense shrub that flowers all the year round and at first sight looks very similar to *Euryops pectinatus*. It never sets seeds and has to be propagated by cuttings. The visitor to Kirstenbosch will see it just inside the main entrance and in many other places. It is generally regarded as a hybrid, that evidently arose spontaneously in the garden about ten years ago. After examining the plant, I feel confident that it is the hybrid between *Euryops pectinatus* and *Euryops abrotanifolius*. This fact is in itself remarkable, since no certain hybrids of *Euryops* are known from nature, and certainly not between these two species. In a botanical garden that in nature are ecologically or geographically isolated, species are often brought together, and thus hybrids are sometimes more easily formed. In this case the result is of horticultural importance, since the hybrid flowers lavishly all the year round, whereas the parent species have rather limited flowering periods.

During my wanderings in Kirstenbosch I have come across two other spontaneous hybrids that have a more far-reaching significance. One is *Euryops pectinatus* × *Gamolepis chrysanthemoides*, the other is *Euryops spathaceus* × *Gamolepis chrysanthemoides*. In nature the parent species never meet, the *Gamolepis* being confined to the Eastern Province and the *Euryops* species to the Cape proper. The genus *Gamolepis* has long since been regarded as very distinct from *Euryops*, and at one time was even regarded as belonging to another tribe of the family. During my studies of these and related genera, however, I have arrived at the conclusion that the two genera are very closely allied and should perhaps be lumped together. The only difference is that *Euryops* has a pappus, whereas *Gamolepis* has not. Furthermore, there are a few species of *Euryops* (e.g. *Euryops laxus*), which have only a few and very short pappus bristles. And in all species of *Euryops* the pappus is caducous, i.e. it falls off very easily, and the ripe achenes never wear any pappus bristles. It is true that the pappus is of great taxonomic significance in many groups of the family, but when it comes to mere presence *versus* absence, one has to be cautious. The spontaneous formation of the two vital intrageneric hybrids in Kirstenbosch is further support to my earlier observations that *Euryops* and *Gamolepis* are too close to be regarded as separate genera. These points will be elucidated further in my monograph of the genus *Euryops* now under preparation.

The intention of these notes is to stress the importance and value of Kirstenbosch, not only as a public garden where the South African flora can be admired. In addition to its many other activities, like education, seed distribution, preservation of the indigenous flora and vegetation, Kirstenbosch is also a scientifically important institution that cannot be overestimated.

BOOK REVIEW

Flora Africana—South African Botanical Books—Suid-Afrikaanse Plantkundige Boeke—1600–1963.

This book is No. 8 of the Grey Bibliographies and is particularly interesting as it is published in commemoration of the Kirstenbosch Golden Jubilee by the South African Library.

It is compiled by W. Tyrrell-Glynn and M. R. Levyns, both experts in their own field.

In it are listed 244 books followed by the titles of 30 periodicals in a straightforward alphabetical arrangement of authors. The decision to present the material in this way is no drawback because the size of the book is not unwieldy.

This book should be in the hands of all who are interested in the flora of South Africa because it has so much to offer both to the layman as well as the expert. The amount of information available in many of the annotations is not only extensive but also appealingly interesting in its presentation. The fact that Linnaeus lost the chance of naming our Red Disa by being two months later than Bergius in having his work published and that there was even some male jealousy over publications about our proteas over a hundred years ago make for lively reading for everyone.

That this book is invaluable for the serious student of South African flora I cannot stress too much. Botanists and libraries everywhere will find it most useful. It is definitely a 'must' for all botanists and for collectors of Africana.

M. E. J.

A BIRD'S-EYE VIEW OF CAPE MOUNTAIN VEGETATION

Hugh Colin Taylor
Plant Ecologist, Department of Agricultural Technical Services, Stellenbosch

During 1952 the Soil Conservation Board appointed an inter-departmental committee 'to investigate the problems relating to the conservation of the principal mountain catchments of the Union'. With the release of the inter-departmental committee's report in 1958, official interest in the conservation of mountain catchments in general, and in those of the south-western Cape in particular, was greatly increased. A subcommittee was appointed to examine the possibility of doing co-ordinated research on the influence of various treatments on water supplies and vegetation. A post of plant ecologist was created to initiate research on the mountain 'fynbos' vegetation of the south-western Cape, and in 1962 I was appointed to that post. While the long-term aim is to determine the effect of treatment, especially veld-burning, on this vegetation, the most pressing problem is to find out exactly with what we are dealing. The first task is therefore to conduct a primary botanical survey of the mountain vegetation of this region.

In his *Veld Types of South Africa*, Acocks (1953) has, on his own admission, dealt scantily with the sclerophyll or 'macchia' vegetation (now commonly known as 'fynbos') characteristic of the south-western Cape. Of this he writes: 'It is a complex vegetation, and to divide it simply into Macchia and False Macchia is like dividing the tropical vegetation into grassveld and bushveld, i.e. in this preliminary map and description we are not really subdividing this southern vegetation in the same way as we have subdivided the tropical vegetation.' At present we know very little about the different ways in which the various types of fynbos react to treatment (e.g. fire), partly because we do not know what constitutes the different fynbos types or where their boundaries are. Different veld types should reflect differences in land-use potential, thus only when we know the types can we decide where experimental work to determine the best land-use is most needed. The primary botanical survey, in providing an over-all picture of the composition, the potential and the problems of this group of veld types, will form the foundation upon which later experimental work will be based. This does not mean that all intensive studies should await the completion of the botanical survey, but it does mean that we shall not be able to apply the results of intensive studies to areas outside the study area until the boundaries of all fynbos veld types have been delineated by primary botanical survey.

In May 1963 a small team, of which I was a member, set about selecting possible catchments for research. As a preliminary to our field reconnaissance we flew over the mountains of the Western Province by helicopter to get a bird's-eye view of the area. The Western Province mountain complex is the knot of mountains in the south-western 'corner' of the Cape folded ranges where they alter direction from roughly north-south to east-west. It comprises the mountainous area encircled by Somerset Strand, Stellenbosch, Paarl, Wellington, Hermon, Gouda, Wolseley, Worcester, Villiersdorp, Bot River and Kleinmond, and thus includes the Koeëlberg, Groenlandberg and Houhoek areas, the Hottentot's Holland, Jonkershoek, Drakenstein and Franschhoek mountains and the Wemmershoek, Du Toit's Kloof, Slanghoek, Limietberg and Elandskloof ranges. The helicopter covered this great tangle of peaks in three flights of about one hour each; it was thus possible to examine likely catchments at slow speed and at low altitude.

As a mountaineer, used to gazing down from the heights, I had thought the helicopter flight would teach me little. In retrospect, however, I realize how valuable this flight has been. It was not only the different perspective in space that was useful—looking at the peaks from a different angle, literally—but also the different perspective in time. The observations of many days' travel on foot were telescoped—or may I call it helicoptered—into a mere three hours: there was no time to become preoccupied with detail and so some general impressions stand out clearly.

In the first place it does seem possible to delineate distinct vegetation types within the fynbos. To be recognizable at a distance, whether from the air or from the ground, a vegetation type—a 'veld type' as defined by Acocks (1953)—must be characterized by a conspicuous plant, say a large bush or tree with distinctive form or foliage, which can be distinguished some hundreds of feet away. Such a 'conspicuant' should also be capable of rapid vegetative regeneration after fire and should be relatively long-lived, so that it remains present, and can be recognized, in veld of practically any age. While the absence of dominance, the general uniformity of the vegetation and the presence of many differing stages of fire-regeneration complicate the task of recognizing types within the fynbos, it seems likely that certain conspicuous plants fulfilling these requirements are sufficiently exclusive (in the Braun-Blanquet sense) to be used for this purpose.

Three examples taken from the helicopter flight will serve to illustrate this.

(1) One of the most characteristic plants of the lower mountain slopes in the Western Province is the 'Waboom', *Protea arborea* Houttyn. This is a long-lived, much-branched, white-stemmed, small tree up to about 12 feet high, with large blue-grey leaves. It occurs in an open park-like formation reminiscent of Bushveld trees. In all these characters it is sufficiently distinctive to be recognized at a distance. After fire it regenerates rapidly from stem coppice. Waboom is widely distributed on talus slopes below the kranses to a height of about 2,000 feet. Though it appears indifferent to aspect, it does seem to occur at higher altitudes on the northern slopes and in the warmer valleys, where its place is taken at lower levels by *Protea laurifolia* Thunberg. This zonation was clearly seen on the north-west slopes of Stettynskloof. Field-work in Waboom areas since the helicopter flight suggests that its associates are sufficiently constant to enable us to accept the Waboom as characteristic of a distinct veld type which can provisionally be called *Waboomveld.*

(2) The Waboom is rare along the whole eastern edge of the complex from Brandvlei Dam to Bot River mouth, and especially in the Groenland district bounded by the Steenbras River, Groenlandberge, Houhoekberge and the Bot River. This vegetation forms a distinct southern type which subsequent investigation showed to be extremely rich floristically. Most of the plants are small, but *Tetraria thermalis* (L.) C.B.Cl. ('Bergpalmiet'), characteristic of this type, forms a large yellow-green tuft which can be seen clearly from the air. We may therefore refer to this vegetation as *Bergpalmietveld.*

(3) The northern part of the complex around Bain's Kloof consists of numerous broken rocky outcrops reminiscent of the Cedarberg. Here, possibly due to the protection of the rocks, there is a marked increase in the woody elements of the flora, even at fairly high altitudes—but not higher than the upper Shaleband. Small trees such as *Heeria argentea* O. Ktze. (Kliphout), *Gymnosporia laurina* (Thg.) Szysz., *Gymnosporia acuminata* (L.) Szysz. (Sybas), and *Hartogia capensis* L.f. (Lepelhout) are common, and I have even found *Podocarpus latifolius* (Thg.) R.Br. (Yellowwood) at over 3,000 feet on the slopes of the Limietberg. This *woody type* extends northward and westward outside the area (Heerenloggementsberg and Kasteel-

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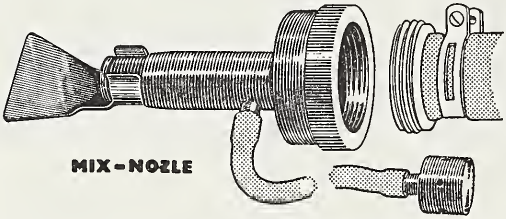

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1 *to serve as a guide to those who wish to identify flowers for themselves;*

2 *to encourage the preservation of the unique Cape Peninsula flora from the ravages of reckless ignorance and ruthless 'progress'.*

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berg, for instance), but on the helicopter flight I could recognize southern outliers in broken rocky terrain in the Wemmershoek range and even on the northern slopes of Haelkop flanking the Jonkershoek valley.

The helicopter trip seemed to confirm my previous impression that the high-altitude vegetation above *c.* 3,000 feet, especially in rocky, dissected, marshy plateau areas where differences in soil moisture are marked, consists of a mosaic of numerous small communities, often quite distinct and often dominated by a single species. Restionaceous plants are probably the most frequent, followed by Cyperaceae and Ericaceae. However, from the air no plants sufficiently conspicuous to justify even provisional naming of these communities were seen.

Years of patient field study remain to be done before such very tentative findings can be verified or refuted; these few examples merely show how a rapid glance at vegetation may provide clues which can be followed up in detail later—clues which could have been overlooked if a brief reconnaissance had not been undertaken.

This list of impressions would not be complete without mention of one more—one which, in fact, made a greater impact on our team than all the others combined: the spread of alien vegetation. Seeing nearly the whole of the Western Province mountain complex in three hours makes a nature-lover exceedingly despondent about the fate of our magnificent Cape flora. There are hardly a hundred acres anywhere in these lovely mountains that are entirely free of aliens, chiefly *Hakea acicularis* R.Br. and *Pinus pinaster* Ait. It was not the major infestations which alarmed me—I was well aware of these before our flight—but the widespread little pockets and patches hidden away in inaccessible corners and kloofs: all are potential cancers which will burst into virulent growth when the next fire has swept through them. It is sad indeed that the whole alien menace was not tackled vigorously twenty years ago when it might have been eradicated entirely. But it is tragic that these small beginnings are not being tackled *now*, so that the large infestations can at least be contained within their present bounds. In another twenty years—or even ten—it will be too late. Elsewhere I have discussed possible means of controlling alien plants (Taylor, 1963); here I wish merely to draw attention to one method that has not been put forward before: by helicopter. Where a patch comprising a score or even a hundred bushes is involved, the amount of work entailed in their manual eradication is negligible compared to the labour and time spent in reaching them on foot in distant mountain fastnesses. Helicopters are already used to great effect for fire-fighting in difficult terrain. They could be used far more advantageously, and with far less danger by dropping five men with axes near a small patch of hakea. If the use of helicopters is justified in fighting fires, how much more justified is their use in controlling the spread of hakea and pine, which are, in the long run, a hundred times more threatening to the plant, bird and animal life of our catchments than any veld fire could ever be?

With the increased interest in and the start of long-term research into our indigenous Cape vegetation it is imperative that eradication of alien plants receive serious and immediate attention. For, apart from the imminent threat to survival of a unique flora, what is the point of doing costly research on vegetational influences if this vegetation is soon to be replaced by something different?

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SOME CULTURAL NOTES ON *DISA UNIFLORA*

G. M. L. Feinauer

THE universally acclaimed *Disa uniflora*, known to many as 'The Pride of Table Mountain' and described by a Swedish botanist, Peter Johan Bergius, in the year 1767, must surely, for sheer elegance and colour, be accepted as one of the most exquisite of the genus.

My introduction to the technical sphere of the work on *Disa uniflora* had its beginning in 1958, Prof. H. B. Rycroft being instrumental in arousing my interest when he handed me some specimens of the disa which he had collected in the Stellenbosch district. Much of the success I have had thus far stems from the inspiration which I have received from Prof. Rycroft and my colleagues at Kirstenbosch and to these gentlemen I am most grateful.

The disa occurs in many and varied localities in the Peninsula and on mountain ranges further inland confined, of course, to the Western Province only.

The disa does not only grow at high altitude but may be found as low as 500 or 600 feet, provided they are in the mist belt. The habitat need not necessarily be a stream for they sometimes occur on rock ledges or cliffs, mainly where there is a steady drip of water. Often good specimens are found growing a little distance from streams in grasses where filtered light conditions are suitable. In some instances disas have been found growing in an area where all natural water supplies are lacking for short periods during the autumn. In fact, the plants can go completely dormant and yet survive.

The reproduction in the natural habitat depends entirely on local conditions. The blooms are fertilized by the butterfly, *Meneris tulbaghia*, or the citrus butterfly. In areas where this winged insect is not found in abundance reproduction is not very good. From observations made during the past two years I find reproduction from seed in the Koeëlberg area is possibly the best as 99 per cent of the blooms are fertilized by the butterfly with the result that enormous fruits are formed with an abundance of seed. Each capsule may contain something like 30,000 seeds.

Vegetatively the disa will multiply where ground conditions are suitable, such as good, moist sphagnum-mossy ground cover and running water.

From observations I have made I find the disa grows best on an easterly or south-easterly situation but is quite at home on fairly flat terrain, provided the grasses are long enough to filter the sun's rays.

The plants are raised by seed, division of clumps or by planting matured pseudo-bulbs. The seeds are collected during March/April from plants that have flowered during September/January. As the seed loses its viability rather rapidly I find that seed sown during early April will give almost 100 per cent germination and seed sown during May approximately 50 per cent germination. Seed capsules that ripen during May and June germinate very slowly and the possibilities of a successful crop of seedlings will diminish.

I have found that red spider and green fly seem to be the only insect pests which attack the plants and mainly during the autumn months. Never use D.D.T. or nicotine dust, as the plants absorb the powders and die back rapidly, making recovery almost impossible. I can recommend with confidence spraying with a highly potent systemic poison which will eradicate all disease without harm to the plants. The seedlings are often attacked by fungi, such as black spot, which can be countered by the application of a reliable fungicide.

The disa need not necessarily be grown under glass. Shade houses are suitable, where the plants can get sufficient filtered light.

It is interesting to remember that the *Disa uniflora* was cultivated successfully in Europe in 1825, in Kew Gardens in 1843 and in western Europe during 1891 and 1892. Will you, too, take up the challenge and grow these beautiful orchids? To assist you, here are some hints on their cultivation.

The following proved method of germinating the seed of *Disa uniflora* is recommended:

1. Sterilize a 6-inch pot and sufficient crocks for drainage (the pot should be very well drained—at least 2-inch drainage). Place a 2-inch layer of sphagnum moss over the drainage crocks and a 1-inch layer of river sand over the moss. Fill the pot with a mixture of sphagnum moss and river sand (50/50). A dusting of fine peat moss should be added to the surface.
2. Plunge the pot into water until well soaked.
3. Dust the seeds on the surface and do not cover with any dressing.
4. Place a piece of glass over the pot.

Germination usually takes place from 21 to 35 days after sowing, often longer.

Temperature: The house should be kept at a temperature of 60° to 65° during germination.

Light: Shaded or filtered light is necessary.

Water: pH value 6·8 but never higher. Never use treated water. River- or rain-water is suitable.

Seedlings: Do not prick off the seedlings singly but in small clumps. These should then be planted in some fresh green moss. At this stage plants will be at least 6 months old and have at least three leaves. Use 3-inch clay pots for this operation.

Seedlings may be kept in 3-inch pots for two years before transfer to 5-inch or 6-inch pots, when they should flower.

GOLDEN JUBILEE YOUTH COMPETITIONS

A feature of the celebrations was a series of competitions for schoolchildren. Some of the prize-winning entries in the 'literary' section are printed below.

THE IMPORTANCE OF KIRSTENBOSCH AND THE NEED FOR MORE BOTANICAL GARDENS FOR WILD FLOWERS IN SOUTH AFRICA

ELEANOR SAMSON (15 years)
'Sedgefield', Evergreen Avenue, Newlands, C.P.

FIFTY years ago Parliament unanimously voted for the establishment of a National Botanic Garden at Kirstenbosch. This had once been a sprawling, flourishing estate with prosperous orchards and vineyards. However, the stately Dutch house was derelict and the farm was completely overgrown. It was no wonder that many were doubtful whether such a wilderness could be tamed and converted into a garden of which they could be proud. They certainly could not have been aware of the ability of the Botany professor at the South African College, Harold Pearson. In three brief years of prodigious work, he converted a wilderness into a luxuriant paradise of spacious lawns, myriads of exquisite flowers and a shimmering hillside of silver-leaf trees. His untimely death was certainly a great loss to everyone who appreciated beauty. His successor, Professor Compton, is also to be remembered for his energetic devotion. Today, Professor Rycroft has found his *métier* in Kirstenbosch, our undeniable heritage.

In this modern age, when life consists of doing things bigger, better and, above all, faster, it is a near impossibility to find any asylum, any escape from the turmoil surrounding us. In the town there is the incessant drone of the passing traffic, the piercing screech of an overhead aeroplane and the grinding, crunching sound of huge mounds of earth being removed for elaborate highways so that man may travel still more quickly. We are caught up in a web which is closing round us tighter and tighter. It is driving us to insanity. We are losing that precious privilege of spending an hour alone with our thoughts surrounded by beauty. Kirstenbosch offers us such a sanctuary.

What greater delight is there other than to amble amongst a patchwork quilt of gaily-coloured flowers and feel cool, green leaves brush across your face and hear a gurgling stream happily cascade down the mountain on its journey far across the flats to the sparkling sea? The horrors of the world, of man's inventions and cruelties, disappear into a vague mirage and you feel at one with all. It is then that you are able to appreciate one of God's greatest gifts to mankind—the miracle of flowers. And He has blessed our country richly. It would be a sacrilege to allow His gift to be destroyed and overgrown by foreign vegetation. It is our duty as well as privilege to preserve these plants from the cluster pine, the acacia, the hakea and many other intruders.

The numerous species of protea alone would serve to fill a botanist's study-hours with work and an artist's canvas with delight. There are the tall, proud strelitzias, like some tropical birds which have alighted to rest and bide their time; the deep blue of the felicias forming an azure lake amidst the green of the lawns. In every little corner of the quilt a new discovery is to be made, here a babiana, there a kalkoentjie. To mention even half their names would fill an encyclopaedia.

We *must* protect these plants and establish new botanical gardens, not merely to afford a visitor pleasure, a botanist infinite study, subject for an artist's canvas or an escape from the world, but to preserve God's great gift with which we are so richly endowed.

THE 'EVERLASTING'

LYNN EASTWOOD POPE (17 years)
St. Cyprian's School, Cape Town

She stood in a jug on the kitchen shelf
(She had been there for years)
Collecting dust.
Her silvery foot rested upon a carpet of dead flies and drawing pins;
Her papery white head hung over the side,
Dull with dust.

She had been gay once:
('Twas many years ago)
A snow-white queen among her subjects,
Nodding graciously in the fresh brisk breeze
With the dull grey shrubs at her feet.
Free!—until a childish hand
Plucked her:
Fated to be queen of the jug and the flies
And a little girl's heart,
'Though covered in dust.

MY GELIEFKOOSDE VELDBLOM

CHRIS KOEKEMOER (8 jaar)
Vleistraat 8, Paarl, K.P.

My geliefkoosde veldblom is koning van die velde van Suid-Afrika. Dit is die protea. Dit maak nie saak na watter soort ek kyk nie, dit is vir my mooi.

Proteas groei in berge. Daar is dit warm. Die grond is klipperig. Dit kan met min reën klaar kom. Die protea is 'n groot familie. Proteas word beskerm. 'n Mens mag dit nie sommer afpluk nie. Jy kan beboet word. Oral langs die paaie staan borde: pluk van blomme verbode.

Ons kan ook proteas in ons blomtuin plant. Dan moet die grond klipperig wees. Dit moet op 'n warm en droë plek geplant word.

Proteas word gebruik vir ruikers en rangskikkings. Soms word dit oorsee gestuur. Proteas kos duur.

By ons skool is 'n veldblommetuin. Daarin groei van die mooiste soorte proteas. Ons is trots op ons tuin. In Paarl-berg se tuin groei ook proteas. Hulle groei in bosse op die grond en die blomme is bo-aan harde stingels.

As iemand my 'n groot present wil gee moet hulle my 'n groot bos proteas gee. Die blomme is groot en wollerig. Die blare is hard en dof-groen. Die protea hou lank in die water. Daar is seker in die hele wêreld nie iemand wat nie dink die protea is die mooiste veldblom nie.

THE BOTANICAL SOCIETY OF SOUTH AFRICA

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER 1962

THE Council of the Botanical Society of South Africa has pleasure in presenting the forty-ninth Annual Report of the Society for the year ended 31 December 1962.

FINANCIAL

Subscriptions received R9,239.89, which includes R930.98 Life Members, and R600 in respect of Patrons. Donations R177.79. Interest on Investments R530.27, Expenditure R2,669.20, of which R148.90 was transferred to the Special Reserve Fund. The surplus for the year is R5,817.27 which constitutes the grant to the Trustees of the National Botanic Gardens in respect of the year. This is the largest grant ever paid over to the Trustees, topping last year's figure by R117.49. In addition, an amount of R3,363.61 has been generously donated by members of the Society towards our Jubilee Fund.

MEMBERSHIP

New Members enrolled 556, which includes 3 Patrons and 23 Life Members. This is the largest number of new members enrolled in any one year to date and is 126 more than during 1961. Resignations and deaths 96, members struck off in arrears 87, leaving a net gain in membership of 373. Total members at year end 3,807.

JUBILEE

Plans to celebrate the Golden Jubilee of the Botanical Society and the National Botanic Gardens at Kirstenbosch in 1963 have been under way for some long time. During the past year, these plans have reached fever pitch and will, we hope, culminate in our Jubilee being celebrated in fitting style. The Society is fully represented on the Jubilee Council and its subsidiary committees. Independently and in co-operation with the various authorities concerned, the Society has taken over responsibility for the many exhibitions to be staged within the Republic and South West Africa during the year 1963. The Society is also organizing the Youth Week Wild Flower Show to be held in September of Jubilee Year. The Council of the Botanical Society warmly welcomed the appointment in May of Col. I. P. S. Terblanche to the post of Jubilee Director. Council further records its sincere appreciation to Col. Terblanche for the close and happy co-operation which exists between his department and the Society.

JUBILEE DONATIONS

Members of the Society have responded magnificently to the appeal sent out in September 1962 for donations towards our Jubilee Celebrations. A total of R3,363.61 was received to 31 December 1962. Of this, R1,000 was donated anonymously with a request that this be earmarked for the Research Scholarship, which is one of the main permanent targets planned to celebrate Jubilee, the others being a Research Institute, and a new Lecture Hall.

BUILDINGS ON TABLE MOUNTAIN

The Botanical Society joined other bodies in protesting successfully to the Table Mountain Preservation Board against the erection of a radio pylon on Table Mountain, it being felt that this would deface this National Monument. For the same reason the damming of Disa Gorge was also opposed. It was also learnt that the Table Mountain Preservation Board had turned down the Disa Gorge scheme and voted against the telephone cable scheme up Kloof Corner and along Fountain Ledge as this would expose too much plumbing on famous climb routes.

CONTROL OF ALIEN VEGETATION COMMITTEE

This is forging ahead, the outcome of its deliberations and hard work appearing to be noticed and acted upon by authorities and individuals alike. Much interest is always shown in the C.A.V. exhibit which accompanies the various Botanical Society functions. During 1962 the committee published a pamphlet entitled *The Case for the National Parks* which outlines the urgent need for the establishment by the various Parks Boards of nature reserves. The finances of the C.A.V. Committee are undertaken by the Wild Flowers Protection Section of the Botanical Society, it being realized that the menace of alien vegetation is a dire threat to our indigenous flora.

JOURNAL OF THE BOTANICAL SOCIETY, PART XLVIII, 1962

Published during the year and distributed to all members, learned societies, etc. As noted in this issue the Journal will have a change of format as from 1963, to bring it more into line, regarding size, to present-day standards. The Journal has retained its original style and size since first published in 1916.

MEETINGS OF THE SOCIETY

27 January—Special gathering for visiting members, Kirstenbosch.

17 February—Braaivleis at Kirstenbosch.

27 March—Annual General Meeting, followed by excellent talk by Mrs. M. M. Vogts, 'The Cultivation of the Proteaceae'.

5 June—Talk by Dr. E. A. C. L. E. Schelpe, 'South African Orchids'. A most interesting and informative lecture.

24 July—'Indigenous Flora in Cape Town'. This subject fully covered in relation to the Parks and Gardens Department, Cape Town, by Mr. Colin Gohl.

21 August—'A Botanical Symposium'. Members of the staff of Kirstenbosch spoke on the various aspects of botany and horticulture.

8 September—Annual visit to the Karoo Garden, Worcester. Address on behalf of the Mayor of Worcester.

22 September—Wild Flower Show, Kirstenbosch.

23 September—Continuation of Wild Flower Show.

6 October—A visit to the beautiful garden of Mr. and Mrs. Peter Barlow, who afterwards kindly served us tea.

13 October—Annual Gathering of Members, Kirstenbosch. Address and reports of progress of National Botanic Gardens, by Professor H. B. Rycroft.

10 November—Demonstrations in the Nursery, by the staff of the Gardens.

The above meetings could not have been held without the co-operation of all concerned, to whom most sincere and grateful thanks are here recorded.

OFFICE-BEARERS, 1962–3

The following were elected at the Annual General Meeting of Members of the Society, 27 March 1962.

President: Mr. Dudley R. D'Ewes.

Vice-presidents: Professor R. H. Compton, Mr. C. J. Sibbett, Professor H. B. Rycroft.

COUNCIL

Dr. G. J. Broekhuysen
Mr. M. Clough
Dr. J. S. Griffiths
Mr. H. A. van Hoogstraten
Mr. L. J. Hill
Dr. W. P. U. Jackson
Miss M. E. Johns
Dr. G. J. Lewis
Mr. C. L. Lighton
Mr. S. Macpherson
Mr. W. J. Middelmann
Miss E. L. Stephens
Mr. A. J. A. Simpson
Capt. M. F. Stern

All re-elected. Mrs. M. M. Vogts, newly elected and replacing Mr. J. S. Linley, resigned.

Mr. Milton Clough and Mr. S. Macpherson were re-elected Chairman and Vice-Chairman respectively at the first meeting of the Council held in June.

THANKS

The Council of the Botanical Society of South Africa is mindful of all the courtesies extended it during the year by the press, S.A.B.C. and other sources, and wishes to place on record its very sincere appreciation in respect thereof and particularly to the Cape Provincial Administration for the use of its rooms for meetings of the Council.

MILTON CLOUGH, *Chairman.*
(MRS.) W. N. HALL, *Secretary/Treasurer.*

WILD FLOWERS PROTECTION SECTION COMMITTEE

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER 1962

FINANCIAL

Income for the year: Subscriptions R812.24, an increase of R47.71 over the previous year. Cape Provincial Administration grant-in-aid R300.00. Interest on investments R65.49, making a total of R1,177.73. Expenditure R889.25. Total assets of the Section as at year end: R1,352.27 in investments, R875.66 cash in bank at call, value of equipment R621.76—Grand total R2,849.69.

WILD FLOWER SHOW, 23–24 SEPTEMBER

Dr. J. P. Duminy, Principal and Vice-Chancellor of the University of Cape Town, was our guest of honour and performed the official opening. Mrs. Duminy presented the prizes. A record number of high-quality entries was received from members. The Frank Connock Trophy for the best exhibit on the Show went to Mr. J. C. Botha for his exhibit of *Erica walkeria*. Mrs. E. Powrie was awarded the H. B. Rycroft Trophy for the best exhibit in the decorative class; the same exhibit also won for Mrs. Powrie the Henry Lidderdale Trophy, a new award presented by Mrs. Ann Lidderdale in memory of her husband, for the best exhibit by an amateur. In the children's class Miss Ann Mortimer's arrangement in miniature won for her the New Zealand Trophy.

NATURE CONSERVATION

Professor Rycroft was the Section's delegate to the Nature Advisory Committee meeting held in Port Elizabeth in April, at which the Section's recommendations regarding the protection and preservation of our indigenous flora were discussed. The outcome of these discussions will, we hope, be incorporated in future amendments to the Wild Flowers Protection Ordinance. Amongst other things, the Wild Flowers Protection Committee has advocated for a long time that all proteas be included on the protected list. Legislation is long overdue in this regard, and it is now hoped that when the next amendments to the Ordinance are promulgated, proteas will be included.

NATURE CONSERVATION OFFICERS

The Section acknowledges with sincere gratitude the work which the Nature Conservation Officers of the Cape Provincial Administration are doing. The appointment of these full-time officers has now made redundant the services of our own officer, Mr. H. D. W. Meyer, who, on account of failing health and with no means of transport, was finding it very difficult to carry on. An appreciation of Mr. Meyer's services was suitably accorded him during the year. The Nature Conservation Officers have also relieved the Section of the odious task of tracking down offenders against the Ordinances, though this does not mean it is not keeping a watching brief on likely transgressors. The Wild Flowers Protection Committee can, however, now devote more time to important legislative matters.

MEMBERS OF THE WILD FLOWERS PROTECTION COMMITTEE

The following were elected at the first meeting of the Council of the Botanical Society in June:

- Miss M. E. Johns
- Mr. C. L. Lighton
- Mr. S. Macpherson
- Professor H. B. Rycroft
- Mr. A. J. A. Simpson
- Mr. H. L. Silberbauer
- Mrs. M. M. Vogts
- Mr. J. R. Winearls

Professor Rycroft and Mr. Macpherson were re-elected Chairman and Vice-Chairman respectively at the first meeting of the committee.

Thanks are once again extended to all who have helped the Section during the year. Appreciation also to the daily press for its usual co-operation.

H. B. Rycroft, *Chairman.*
(Mrs.) W. N. Hall, *Secretary/Treasurer.*

KIRSTENBOSCH JUBILEE, 1913-63

The Botanical Society of South Africa (Wild Flower Protection Section)

WILD FLOWER SHOW

HELD AT THE GOODWOOD SHOWGROUNDS

The winners in the various sections were as follows:

CUT FLOWERS

Class 1 *Annuals*
1st Mrs. P. Hulse.
2nd Miss E. B. Robinson.
3rd Mrs. P. Hulse.

Class 2 *Bulbs etc.*
1st Miss E. B. Robinson.
2nd Mr. E. F. Perold.
3rd Mr. C. C. Botha.

Class 3 *Watsonias*
1st Mrs. W. Nichol.
2nd Mrs. E. Powrie.
3rd Somerset West W.A.A. Garden Club.

Class 4 *Perennials*
1st Mrs. C. Slade.
2nd Mrs. E. R. Jeffrey.
3rd Mr. J. B. Elliott.

Class 5 *Flowering trees or shrubs*
1st Mrs. E. Powrie.
2nd Mr. A. M. van der Merwe.
3rd Mrs. E. Powrie.

PROTEACEAE

Class 6 *Protea cynaroides*
1st Mr. P. J. Syfert.
2nd Mrs. W. de Villiers.
3rd Mr. P. J. Syfert.

Class 7 *Protea barbigera*
1st Mr. C. N. Swart.
2nd Mr. C. N. Swart.
3rd Mr. C. N. Swart.

Class 8 *Protea* (not *cynaroides* or *barbigera*)
1st C. N. Swart.
2nd C. N. Swart.
3rd Mrs. A. C. Parkes.

Class 9 *Leucospermum*
1st Mrs. E. Powrie.
2nd C. N. Swart.
3rd Mrs. A. C. Parkes.

Class 10 *Other genera*
1st J. C. Botha.
2nd Miss E. B. Robinson.
3rd Mrs. R. Middelmann.

ERICACEAE

Class 11
1st Mrs. E. Powrie.
2nd Mrs. E. Powrie.
3rd J. C. Botha.

ORCHIDACEAE

Class 12
1st No award.
2nd Miss E. B. Robinson.
3rd R. G. P. Schurr.

Class 13 *One species in container*
1st Miss E. B. Robinson.
2nd R. G. P. Schurr.
3rd Mr. J. M. Grobler.

SUCCULENTS

Class 14 *One species in container*
1st A. F. Barwick.
2nd J. M. Grobler.
3rd A. F. Barwick.

Class 15 *A collection of not more than 6 species in separate containers*
1st A. F. Barwick.
2nd A. F. Barwick.
3rd J. M. Grobler.

Class 16 *A collection of not more than 12 species in separate containers*
1st A. F. Barwick.

POT PLANTS

Class 17 *Plant growing in suitable container*
1st Mrs. E. Powrie.
2nd J. M. Grobler.
3rd Mrs. J. H. Cairns.

Class 18 *Collection of plants, one or more species growing in suitable container*
1st R. G. P. Schurr.
2nd Mrs. D. M. Lincoln.

Class 19 *One fern growing in suitable container*
1st No award.
2nd Miss B. de Jongh.

DECORATIVE CLASS

Class 20 *Miniature rockery arrangement with at least* 6 *species in container not exceeding* 15 in. × 15 in.

1st Mrs. T. Hoogenhout.
2nd Mrs. M. C. Slade.
3rd Mrs. J. H. Cairns.

Class 21 *Display of flora in suitable container arranged for effect. Space allowed up to 4 ft.*

1st Mrs. J. Pare.
2nd C. N. Swart.
3rd Mrs. E. Powrie.

Class 22 *Display of flora in suitable container arranged for effect. Space allowed up to 2 ft.*

1st Somerset West W.A.A. Garden Club.
2nd Miss J. Pare.
3rd A. M. van der Merwe.

Class 23 *Novelty arrangement* (*no dried flowers*). *Spac allowed* 2 *ft.* 6 *in.*

1st C. N. Swart.
2nd C. N. Swart.
3rd Mrs. J. Pare.

MR. AND MRS. FRANK CONNOCK FLOATING TROPHY

Best exhibit in show: Mr. C. N. Swart.

H. B. RYCROFT FLOATING TROPHY

Best exhibit in decorative class: Mr. C. N. Swart.

HENRY LIDDERDALE FLOATING TROPHY

Best exhibit by an amateur in the decorative class: Somerset West W.A.A. Garden Club.

YOUTH WEEK JUNIOR WILD FLOWER SHOW AWARDS

Class A, 15–18 *years*: Jennifer Pare.

Class B, 10–14 *years*: Leonie Goedhals.

Class C, 9 *years and under*: Hilda Parker.

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South African botanical books 1600–1963: a selective bibliography based on the collections of the S.A. Public Library (with the addition of items from the Bolus Herbarium of the University of Cape Town); annotated by Dr. M. R. Levyns. Illustrated.

Grey bibliography: 8. R1.50 (15/–) plus 2c postage

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KAAPSTAD

INCOME AND EXPENDITURE ACCOUNT FOR THE TWELVE MONTHS ENDED 31 DECEMBER 1962

	R	R		R	R
General Administration Expenses		510.80	*Subscriptions*		7,700.91
Audit Fees 1962		73.50	Family Members	1,614.39	
Honorarium to Sec.-Treasurer		720.00	Ordinary Members	4,908.85	
Bank Charges		71.45	Associate Members	955.14	
Stationery, Printing, etc.		348.79	Corporate Members	222.53	
Journal No. 48		759.76			
Cost to date including printing, dispatching, etc.	R1,050.46		Donations		177.79
Less amounts received from advertisements	290.70		Interest on Investments		530.27
			Amount recovered *re* Journal No. 47		77.50
Depreciation—Addressograph		27.00			
Depreciation—Adding Machine		9.00			
Transfer to Reserve Fund		148.90			
Surplus for the year		5,817.27			
		R8,486.47			R8,486.47

WILD FLOWERS OF THE CAPE OF GOOD HOPE

BOOK FUND TRUST ACCOUNT

	R		R
Stock of Books on hand 1.1.1962	7,043.59	Sundry Income	686.64
Audit Fees	21.00	Stock of Books on hand 31.12.1962	6,517.01
Bank Charges	1.00		
Surplus	138.06		
	R7,203.65		R7,203.65

INCOME AND EXPENDITURE ACCOUNT FOR THE TWELVE MONTHS ENDED 31 DECEMBER 1962

	R	R		R	R
Accumulated Funds		6,707.76	**Stock of Books on Hand**—as per Treasurer's valuation		6,517.01
Balance 1.1.1962	7,219.70		**Post Office Savings Bank**		151.07
Add surplus as above	138.06		Savings Account No. S 5660 @ 3½% p.a.		
	7,357.76				
Less transfer to National Botanical Gardens	650.00		**Cash**		39.68
			Current Account at Standard Bank of S.A. Ltd.	57.38	
			On hand	3.30	
				60.68	
			Less liabilities	21.00	
		R6,707.76			R6,707.76

AUDITORS' REPORT

We have to report that we have examined the attached Balance Sheet as at 31.12.1962 with the books and vouchers of the Society, and have obtained all the information and explanations we have required. We are satisfied that the securities are in existence and that the Society has kept proper books and accounts.

We are of opinion that such Balance Sheet is properly drawn up so as to exhibit a true and fair view of the state of the Society's affairs at the date thereof, according to the best of our knowledge and the explanations given to us and as shown by the books of the Society.

CAPE TOWN
31 *January* 1963

R. M. JOUBERT & CO.
Chartered Accountants (S.A.) *Auditors*

THE BOTANICAL SOCIETY

BALANCE SHEET AS

		R	R
Life Membership Fund			8,861.85
Balance 1.1.1962		7,330.87	
Add amount received during 1962		1,530.98	
Reserve Fund			729.03
Subscriptions Paid in Advance			810.19
National Botanical Gardens Surplus for the year.			5,817.27
Jubilee Donations			428.67
Donations received		3,792.28	
Less Paid to Jubilee Council	R2,363.61		
Research Scholarship	1,000.00	3,363.61	
			R16,647.01
Wild Flower Protection Section			2,849.69
Balance as at 1.1.1962		2,561.21	
Grant from Provincial Administration		300.00	
Subscriptions—ordinary—received during 1962		812.24	
Interest received during 1962		65.49	
		3,738.94	
Less 5% of 1962 Subscriptions credited to General Administration expenses	R40.61		
Salaries	510.00		
Stationery, Postages, Travelling expenses, Bank charges, Insurances, etc.	214.41		
Depreciation of Equipment @ 10% p.a.	69.08		
Loss Wild Flower Show	55.15		
		889.25	
			R19,496.70

Referred to in our Report of even date.
CAPE TOWN
31 January 1963

OF SOUTH AFRICA

AT 31 DECEMBER 1962

		R	R
Investments:			
Cape of Good Hope Savings Bank			2,333.67
Savings Account No. 52773 @ 4% p.a.			
Post Office Savings Bank			223.41
Savings Account No. 5803 @ 3½% p.a.			
United Building Society			7,249.66
Fixed Deposit C 35721 with accrued interest @ 5% p.a.		1,757.08	
Fixed Deposit C 37523 with accrued interest @ 4% p.a.		729.03	
Savings Account No. 536 @ 2% p.a.		4,763.55	
S.A. Permanent Building Society			4,054.00
Fixed Deposit No. 3861 with accrued interest @ 5% p.a.		1,428.40	
Fixed Deposit No. 4879 with accrued interest @ 5% p.a.		2,625.60	
Cash			2,421.66
Current Account at Standard Bank of S.A. Ltd.		2,494.95	
On hand		21	
		2,495.16	
Less liabilities		73.50	
Amount due from Wild Flower Protection Section			40.61
Addressograph			243.00
Balance 1.1.1962		270.00	
Less depreciation written off		27.00	
Adding Machine			81.00
Balance 1.1.1962		90.00	
Less depreciation written off		9.00	
			R16,647.01
Wild Flower Protection Section			2,849.69
Investments:			
S.A. Permanent Building Society			
Fixed Deposit No. 2899 with accrued interest at 5% p.a.		883.32	
Fixed Deposit No. 2589 with accrued interest at 5½% p.a.		468.95	
Cash:			
Current Account at Standard Bank of S.A. Ltd.		910.42	
On hand		5.85	
Equipment:			
Film Projector, Screen, etc.—cost	R802.40		
Duplicator—cost	326.00		
	R1,128.40		
Less aggregate depreciation	506.64		
		621.76	
		R2,890.30	
Less amount due to General Account		40.61	
			R19,496.70

R. M. JOUBERT & CO.
Chartered Accountants (S.A.)
Auditors

PUBLICATIONS ON SALE AT KIRSTENBOSCH

The following may be obtained by application, enclosing payment, to The Hon. Secretary, Botanical Society, Kirstenbosch, Newlands, C.P., South Africa. Prices include postage.

'The Genus Oxalis in South Africa'; T. M. Salter. (355 pages, 10 plates, 73 text-figures)	R3.50
'The Genus Muraltia'; M. R. Levyns	R3.50
'The Species of Oxalis occurring in the Cape Peninsula and how to distinguish them'; T. M. Salter	7½c
'General Hints on Raising Indigenous Plants from Seed'; H. F. Werner	7½c
'South African Proteaceae and their Cultivation'; H. F. Werner	7½c
'Progress in the Study of the Silver Tree Disease'; D. Olivier	7½c
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'Growing Proteaceae in the Summer-rainfall Area'; M. M. Vogts	7½c
'Seaweeds'; W. E. Isaac	7½c
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'Some South African Herbaceous Perennials and their Cultivation'; H. F. Werner	7½c
'Plant Names and their Origin'; M. R. Levyns	7½c
'Propagation and Cultivation of Proteas and Heaths'; H. F. Werner	7½c
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'Algemene Wenke oor die Kweek van Inheemse Plante van Saad'; H. F. Werner	7½c
'Notes on some rare Stapelias from Namaqualand'; H. Hall	7½c
'Birds of the National Botanic Gardens of South Africa'	10c
'Gasteria—A Problem Genus of South African Succulent Plants'	10c
'South African Epiphytic Orchids'; E. A. C. L. E. Schelpe	10c
Annual Reports of the National Botanic Gardens, 1913–61, each year	2½c
Reprints available of articles published in the 'Journal of South African Botany', on inquiry, each	7½c

'The Journal of South African Botany'; Vols I–XXVII 1935–61, each volume in four quarterly parts; per volume R3, per part R1.05. (To members of the Botanical Society R2.50 and 85c respectively.) Back volumes at price of publication.

SPECIAL RATE TO MEMBERS RESIDENT OUTSIDE THE REPUBLIC OF SOUTH AFRICA

Members are kindly reminded that all subscriptions must be remitted in the equivalent South African currency, i.e. rand/cents. Please check with your bank or Post Office before remitting. The following is given as a guide:

Corporate Membership	Rand	10.00	(£5.0.0)
Family	„	5.00	(£2.10.0)
Ordinary	„	3.00	(£1.10.0)

JOURNAL OF THE BOTANICAL SOCIETY:

BACK NUMBERS

The following Parts are obtainable at the prices shown. The principal contents are mentioned below: each part also contains full-size Plates, News and Notes, Reports, etc.

Price to Members of the Botanical Society 25c; to non-Members 35c

Part	XXI.	Aloe Marlothii: Some Forms and Hybrids.	G. W. Reynolds.
		Lawn Grasses on Trial at Kirstenbosch.	J. W. Mathews.
		How to form a Garden Library.	L. B. Creasey.
		South African Conifers for Garden Use.	J. W. Mathews.
		From New York to Kirstenbosch and Back.	S. V. Coombs.
,,	XXII.	South African Succulents at Kew.	Sir Arthur Hill.
		An Old Cape Frontier.	E. A. Walker.
		Our Wild Flowers and Their Protection.	F. Guthrie.
,,	XXVIII.	The Herbarium of the National Botanic Gardens, Kirstenbosch.	R. H. Compton.
		Nature Study in the Forests at Kirstenbosch.	M. E. Johns.
,,	XXXI.	Cape Annuals for the Garden.	F. W. Thorns.
		A Plea for South African Trees.	D. R. D'Ewes.
,,	XLIV.	Birds of the National Botanic Gardens of South Africa.	G. J. Broekhuysen.
		Gasteria—A Problem Genus of South African Succulent Plants	E. A. C. L. E. Schelpe.
,,	XLIV.	South African Epiphytic Orchids: 1	E. A. C. L. E. Schelpe.

THE BOTANICAL SOCIETY OF SOUTH AFRICA

OBJECTS:

1. The promotion of the interests of the National Botanic Gardens of South Africa established under the Trustee of the National Botanic Gardens of South Africa.
2. The preservation of the native flora of South Africa. The Society therefore endeavours:
   - (*a*) To encourage the people of South Africa and other countries in the progress and development of the National Botanic Gardens of South Africa at Kirstenbosch, and any other Garden that may be established by the Trustees of the said National Botanic Gardens of South Africa.
   - (*b*) To augment the Government and other grants towards developing, improving and maintaining the National Botanic Gardens of South Africa at Kirstenbosch and any Garden referred to in the preceding subsection.
   - (*c*) To organize shows at which may be displayed the results of botanical experiments of cultural skill in improving the different varieties of South African flora.
   - (*d*) To enlighten and instruct on botanical subjects by means of meetings, lectures and conferences and by the distribution of literature.
   - (*e*) To promote the preservation of the native flora of South Africa, to encourage public interest in it, and to co-operate with the Public Authorities and others in the attainment of this object.

FOUNDED 10 JUNE 1913

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Vice-Presidents: Mr. C. J. SIBBETT; Professor R. H. COMPTON; Professor H. B. RYCROFT
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Associate Members enjoy all the privileges of Membership, except that they do not vote at any of the Society's Meetings and are not entitled to share in the free distribution of seed.

Honorary Members may be elected at a Meeting of the Society on the nomination of the Council.

All members except associate members have the privilege of sharing in the free distribution of surplus seeds from Kirstenbosch and Worcester, on application to the Director of the Gardens. The Journal of the Botanical Society, published annually, is sent free to every Member. The Journal of South African Botany can be purchased by Members at reduced rates.

Members who wish to support the Wild Flower Protection Section of the Society may give an annual subscription of 50*c* per annum in addition to the subscription for the class to which they belong. Those wishing to become Members of the Society are invited to communicate with the Hon. Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, C.P.

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JOURNAL OF THE BOTANICAL SOCIETY OF SOUTH AFRICA

Edited by H. B. RYCROFT

Kirstenbosch, Newlands, C.P., South Africa

PART L, 1964

KUNDE
1964

Redakteur: H. B. RYCROFT

Kirstenbosch, Nuweland, K.P., Suid-Afrika

JAARBLAD VAN DIE BOTANIESE VERENIGING VAN SUID-AFRIKA

DEEL L, 1964

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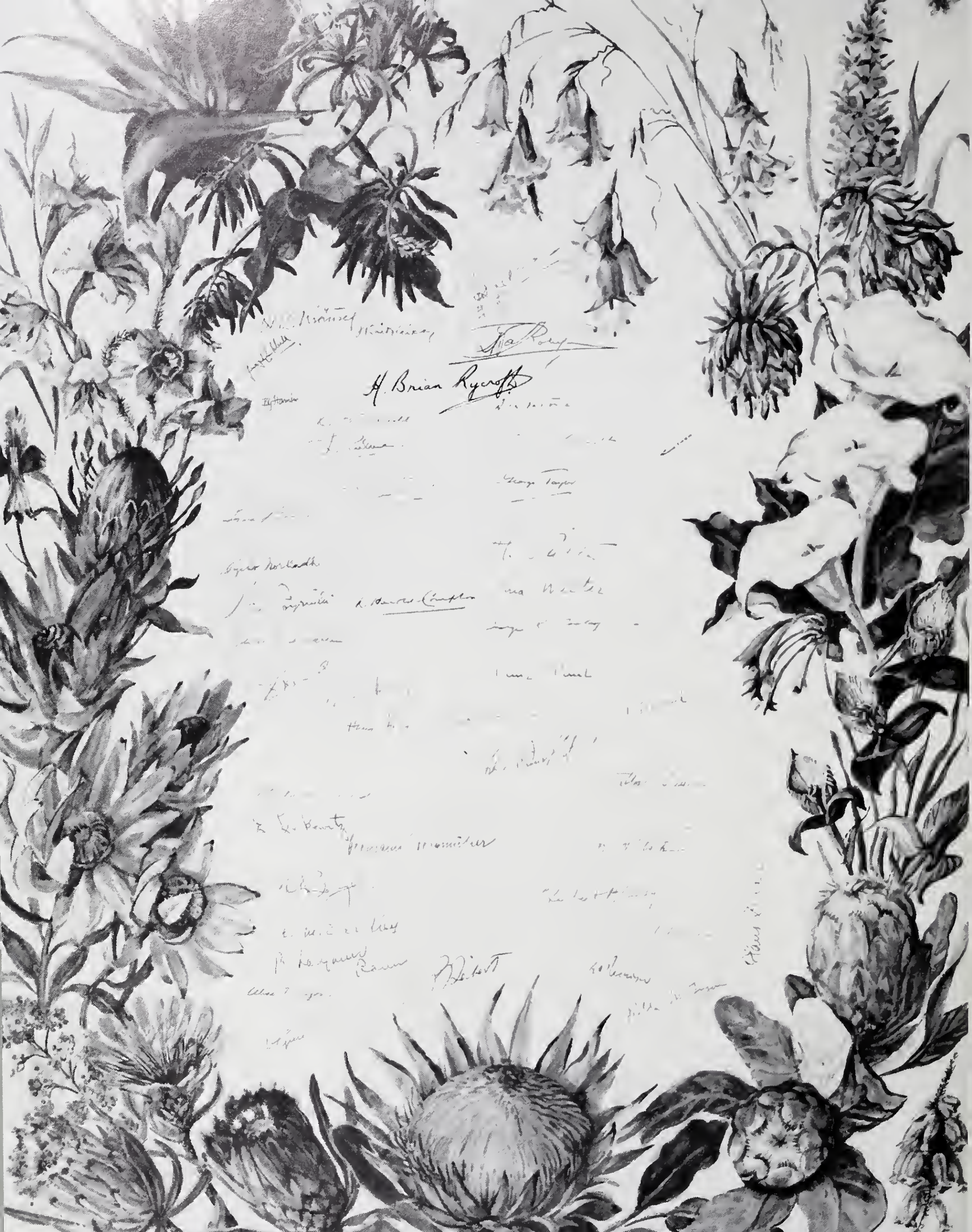

PLATE 1. FRONTISPIECE.
Signatures of overseas botanists during 1963 visit to South Africa.

JOURNAL of the Botanical Society of South Africa
JAARBLAD van die Botaniese Vereniging van Suid-Afrika

PART L
1964

Editor:
H. B. RYCROFT,
M.SC. (S.AF.), B.SC. FOR.
(STELL.), PH.D. (CAPE TOWN),
F.L.S., HON. F. INST.
P.A. (S.A.),
Director of the National Botanic Gardens of South Africa at Kirstenbosch, Cape Town, Harold Pearson-Professor of Botany at the University of Cape Town.

Redakteur:
H. B. RYCROFT,
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(STELL,), PH.D. (KAAPSTAD),
F.L.S., HON. F. INST.
P.A. (S.A.),
Direkteur van die Nasionale Botaniese Tuine van Suid-Afrika te Kirstenbosch, Kaapstad, Harold Pearson-professor in Plantkunde aan die Universiteit van Kaapstad.

DEEL L
1964

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BOTANICAL SOCIETY OF SOUTH AFRICA:
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3. H. Herre (voormalige Kurator van die Botaniese Tuin, Stellenbosch)
4. *Mimetes hirta*
5. In the Great Kei Valley—Botanical Tour, 1963

PRINTED IN SOUTH AFRICA BY THE RUSTICA PRESS, PTY., LTD.,
WYNBERG, CAPE.

NEWS AND NOTES

NUUSBROKKIES

WELCOME TO NEW SECRETARY/TREASURER

After the tragic death of Mrs. Wyn Hall, of which mention was made in the last issue of this Journal, the Society was hard-pressed to find a suitable successor until Miss Jean Harvey was ‘discovered’. Naturally at first her task was difficult because she realized that in many respects Wyn Hall ‘was the Society’, but it was not long before she felt at home and all members who have met her have welcomed and accepted her in a most gracious and encouraging manner.

Realizing Jean Harvey’s interest, devotion to duty, and helpfulness in every way, members can feel assured that the Society will go from strength to strength.

SILVER TREES IN IRELAND

South African plants are now grown in many parts of the world. Some people have had considerable success and others have experienced repeated failures. The Silver Tree (*Leucadendron argenteum*) has often proved to be one of the more difficult species, except in Australia and New Zealand. Mr. and Mrs. Arthur Hamilton of Letterkenny, County Donegal, Ireland, have written as follows about their efforts.

‘During March of last year, returning to our home in County Donegal, the north-west corner of the Republic of Ireland, we took with us Silver Tree seeds kindly supplied by Kirstenbosch. These we distributed to various gardening friends, some in the south of England and the rest in Ireland.

‘In the raising of these trees we were much helped by information collected from the excellent libraries which are one of the many things we enjoyed so much during the three months we were on holiday in the Cape.

‘The seeds were sown outdoors during March and April, our spring. We heard most friends had nearly 50 per cent success, and these quick-growing trees reached a height of 6 to 10 inches in six months. The sight of the beautiful silky leaves towards the end of our summer in September was most rewarding.

‘The problem now is how survival through our winter can be achieved. Part of the information we had gleaned stressed the importance of transplanting to the permanent site directly after the first two true leaves were formed. I have followed this advice and trust my Silver Trees will survive the comparatively mild winter we have near the sea in Ireland due to the Gulf Stream. Each tree planted out is protected with a cage of wire netting covered with sheets of polythene perforated for ventilation. I know some of our friends

VERWELKOMING VAN DIE NUWE SEKRETARESSE/TESOURIERE

Na die tragiese heengaan van mev. Wyn Hall, waarvan in die vorige uitgawe melding gemaak is, het die Vereniging gesukkel om ’n opvolgster te vind totdat mej. Jean Harvey ,,ontdek” is. Dit was vanselfsprekend dat haar eerste taak moeilik was want sy het besef dat Wyn Hall in baie opsigte ,,die Vereniging self was”, maar sy het gou tuis gevoel en alle lede wat haar ontmoet het, het haar baie vriendelik verwelkom en aangeneem.

Met Jean Harvey se belangstelling, liefde vir haar werk en behulpsaamheid in elke opsig, kan lede verseker wees dat die Vereniging van krag tot krag sal gaan.

SILWERBOME IN IERLAND

Suid-Afrikaanse plante groei nou in baie dele van die wêreld. Sommige mense het aansienlike sukses behaal en andere se pogings het herhaaldelik misluk. Die Silwerboom (*Leucadendron argenteum*) het dikwels een van die moeiliker spesies geblyk te wees behalwe in Australië en Nieu-Seeland. Mnr. en mev. Arthur Hamilton, van Letterkenny, Donegal-graafskap, Ierland, skryf soos volg oor hulle pogings:

,,Gedurende Maart verlede jaar, op ons terugreis na ons tuiste in die Donegal-graafskap in die noordwestelike hoek van die Republiek van Ierland, het ons silwerboomsaad, vriendelik aan ons deur Kirstenbosch geskenk, met ons saamgeneem. Hierdie saad is aan verskillende tuinvriende in die suide van Engeland en in Ierland versprei.

,,Een van die baie dinge wat ons gedurende ons vakansie van drie maande in die Kaap geniet het is die inligting wat ons van die uitstekende biblioteke verkry het en dit het ons baie met die kweek van hierdie bome gehelp.

,,Die saad is buitenshuis gedurende ons lente in Maart en April gesaai. Die meeste van ons vriende het 50 persent sukses behaal en hierdie vinnig-groeiende boompies het binne ses maande ’n hoogte van 6 tot 10 duim bereik. Om die pragtige syagtige blare aan die end van ons somer in September te aanskou was ’n dankbare beloning.

,,Ons probleem is nou hoe om die boompies gedurende ons winter aan die lewe te hou. Volgens inligting ingewin word die noodsaaklikheid van uitplanting in ’n permanente plek net na die eerste twee blare verskyn het, beklemtoon. Ek het hierdie advies gevolg en vertrou dat my Silwerbome die

have taken their young trees into their greenhouses for our winter. Time will show which course is right. In any case we are taking back more seed this March!

'I wrote to Kew telling them about my Silver Trees and asked if they knew of others growing in Britain. They said I should note that Silver Trees were not hardy and unlikely to grow outdoors in Ireland; the only Silver Trees in the British Isles being those grown in the Tropical House at Kew.

'In the excellent book *Trees of South Africa* by Palmer and Pitman, it is said: "Gardeners dubious of trying Silver Trees out of their natural habitat might well remember that they were successfully cultivated in England in 1693!" '

Proteas in California

And here is a letter from one of our younger members, Hugh Bollinger of Pacific Palisades, California, who has been growing South African Proteaceae in his garden:

'I feel deeply honoured to write you a short article on my success with growing the protea. I am 16 and became interested in these beautiful flowers last May, but I did not start planting in quantity until September. The first protea which I saw was *Leucospermum nutans*, which grows almost like a wild hedge at a friend's house.

'I would say that my success is due to three things. (1) the seeds which I acquired from the Honingklip Nurseries have been of the best variety. I have had almost 100 per cent germination out of *Leucadendron discolor* and *decorum*. (2) most people who have worked with proteas have had the attitude that they are too hard to grow, so I took the opposite view; and, lastly, the area in which I live is very well situated.

'I must say that the plants in the Proteaceae family are tricky, but once the plants are about 8 inches tall they are very hardy. I am sure that if someone really wanted to grow these plants, they wouldn't mind the little extra care.

'Because most of what I would say about the cultivation is already known to you and your readers, I will tell you of a few things that I have found out for myself.

'With some of the more tender proteas, if damping-off attacks them, if you cut off the diseased leaf or leaves the plant will survive. This has worked for me on *Protea compacta* and *Protea longifolia*.

'I have worked to get proteas into the U.C.C.A. Botanic Garden, but as yet they only have small plants.

'I have experimented and have found that captan, bone-meal, acid food and blood-meal help keep up the acidity in the soil, but too much of any of these will burn the roots of small plants.

'Lately, I have been making combinations of different proteas and they give a nice effect although I have not had any blooms. One of the big problems

betreklike matige winter wat ons het, as gevolg van die Golfstroom naby die see, sal oorleef. Elke uitgeplante boom word beskerm deur 'n draadhokkie bedek met geperforeerde politeen vir ventilasie. Sommige van ons vriende hou die jong boompies in hul glashuise gedurende die winter. Net die tyd sal ons leer watter metode die beste is. Ons gaan in elk geval eerskomende Maart meer saad terugbring!

,,Ek het aan Kew geskryf omtrent my Silwerbome en verneem of hulle van enige ander weet wat in Brittanje groei. Hulle het my meegedeel dat Silwerbome nie gehard is nie en dat dit onwaarskynlik is dat hulle buitenshuis in Ierland sal groei. Die enigste Silwerbome in die Britse Eilande is dié wat te Kew in die Tropiese Huis groei.

,,In die uitstekende boek *Trees of South Africa* deur Palmer en Pitman, lees ons: ,Gardeners dubious of trying Silver Trees out of their natural habitat might well remember that they were successfully cultivated in England in 1693!' "

Proteas in Kalifornië

En hier is 'n brief ontvang van een van ons jonger lede, Hugh Ballinger, van Pacific Palisades, Kalifornië, wat Suid-Afrikaanse Proteaceae in sy tuin kweek.

,,Ek voel geëerd om 'n artikel te skryf oor die sukses wat ek met die kweek van die protea behaal het. Ek is 16 jaar oud en het gedurende Mei verlede jaar in hierdie pragtige blomme begin belang stel maar eers op groot skaal in September begin plant. Die eerste protea wat ek gesien het was *Leucospermum nutans* wat byna soos 'n wilde heining by 'n vriend se huis groei.

,,Ek skryf my sukses aan drie dringe toe: (1) die saad, verskaf deur Honingklip-kwekerye, was van die beste gehalte, aangesien *Leucadendron discolor* en *L. decorum* byna 100 persent ontkiem het. (2) Die meeste mense wat met proteas te doen gehad het meen hulle is te moeilik om te kweek en ek was van die teenoorgestelde mening en (3) die gebied waar ek woon is baie goed geleë.

,,Ek moet sê dat plante van die Proteaceae-familie baie bedrieglik is maar sodra hulle 'n hoogte van omtrent agt duim bereik, is hulle baie taai. Ek is seker dat as iemand baie graag hierdie plante wil kweek hulle nie sal omgee om ekstra moeite te doen nie.

,,Aangesien die meeste wat ek omtrent die kweek van die plante wil sê reeds aan u en u lesers bekend is, sal ek van die dinge wat ek uitgevind het, vertel.

,,Indien sommige van die tenger plantjies vermuf, sal die plant behoue bly as die aangetasde blaar of blare afgesny word. Ek het dit met *Protea compacta* en *P. longifolia* gedoen.

,,Ek het my daarvoor beywer om proteas in die U.C.C.A. Botaniese Tuin gevestig te kry, maar tot dusver het hulle net klein plantjies.

,,Ek het verskillende eksperimente gedoen en gevind dat captan, beenmeel, suurvoedings en bloedmeel help om die grond suur te hou maar te veel van enige van bogenoemdes sal die wortels van klein plantjies brand

with trying to grow proteas in California is that there are so few people who know what proteas are. The Arboretum and Dr. S. Ayres have done a great deal of work with these species. They have had little success because of the heat. Dr. Ayres thinks that the proteas are affected by a harsh change in temperature. It would be wonderful to have your hardy leucospermums and leucodendrons in our California gardens. My *Leucospermum nutans* and *Leucospermum reflexum* are the fastest growing proteas in my collection. The Silver Tree is available in most of our big nurseries, but people who have them water the tree too much and it grows too fast for eight to ten years, then dies. I consider *Protea compacta* and *Protea longifolia* to be very hardy plants once they get into the ground. Transplanting is not too much of a problem if the plants are moved when very young. My *Leucospermum reflexum* was set back a little when it was moved to a better position.

'I hope that I have said a few things that might be of interest and I hope that some day proteas will be available here in California.'

* * *

In the April issue of *The South African Garden and Home*, an article was published on *Disa uniflora*, written by one of our members, Mrs. Margaret Lawder. Mention was made in this article that seed was available to members of the Botanical Society. The response has been gratifying because at least two dozen new members have enrolled as a direct result of this article. In addition, the article was published in *The New Zealand Gardener* and nineteen new members in New Zealand have joined our Society. The demand for the disa seed has been so great that the stock has been almost depleted!

* * *

A member from California, William A. MacPherson, M.D., has mentioned that he is forming a new little group called 'Cactus Research Associates', which will be dedicated to the solution of the problems facing commercial and amateur growers of cactus and succulent plants and to the extension of interest in these plants. He would like to exchange cultural information with members of the Botanical Society, particularly in connexion with the difficult South African species.

Any member who is interested in exchanging information should write to:

William A. MacPherson, M.D.
Cactus Research Associates,
2089 Pinecrest Drive,
Altadena, California.

* *

The first excursion of the newly-formed Botanical Discussion Group was conducted by Professor W. J. Lutjeharms, with the assistance of Mr. G. B. Portsmouth and other members of the staff of the Department of Botany, U.C.T. About fifty members attended

,,Ek is tans besig met samestellings van verskillende proteas. Dit gee 'n mooi effek maar hulle het nog nie geblom nie. Indien 'n mens proteas in Kalifornië wil kweek is een van die grootste struikelblokke dat daar so min mense is wat proteas ken. Die Boomkwekery en dr. S. Ayres het al baie navorsing oor hierdie spesies gedoen maar het weens die hitte min sukses behaal. Dr. Ayres meen dat proteas deur die groot temperatuurveranderings beïnvloed word. Dit sal wonderlik wees om julle geharde leucospermums en leucadendrons in ons tuine in Kalifornië te kweek. My *Leucospermum nutans* en *L. reflexum* is die vinnigste groeiers in my versameling. Silwerbome kan by die meeste kwekerye verkry word, maar die meeste mense gee hierdie bome te veel water. Hulle groei te vinnig vir agt tot tien jaar en gaan dan dood. Ek vind dat *Protea compacta* en *P. longifolia*, as hulle eers in die grond is, baie taai is. Indien plante oorgeplant word wanneer hulle baie jonk is is dit nie so 'n groot probleem nie My *Leucospermum reflexum* is effens vertraag toe dit na 'n beter posisie verskuif is.

,,Ek vertrou dat ek 'n paar dinge van belang gemeld het en dat proteas eendag hier in Kalifornië beskikbaar sal wees."

* * *

'n Artikel oor *Disa uniflora* deur een van ons lede, mev. Margaret Lawder, het in die April-uitgawe van *The South African Garden and Home* verskyn. Daarin is melding gemaak dat saad van lede van die Botaniese Vereniging beskikbaar gestel word. Die reaksie was bevredigend want ten minste twee dosyn nuwe lede het as gevolg van hierdie artikel aangesluit. Die artikel het ook in *The New Zealand Gardener* verskyn en 19 nuwe lede uit Nieu-Seeland het by ons Vereniging aangesluit. Die vraag om disasaad was so groot dat ons voorrade byna uitgeput is!

* * *

'n Kaliforniese lid, William A. MacPherson, M.D., skryf dat hy besig is om 'n nuwe groep, ,,Cactus Research Associates" te stig wat hulle daarvoor sal beywer om oplossings te vind vir die probleme waarmee kommersiële en amateurkwekers van kaktus- en vetplante te kampe het en om belangstelling in hierdie plante aan te moedig. Hy wil graag met lede van die Botaniese Vereniging korrespondeer aangaande die kweek van veral die moeilike Suid-Afrikaanse soorte.

Enige lid wat belang stel kan skryf aan:

William A. MacPherson, M.D.,
Cactus Research Associates,
2089 Pinecrest Drive,
Altadena, California,
United States of America.

* * *

Die eerste uitstappie van die onlangse gestigde Botaniese Besprekingsgroep is deur prof. W. J.

this excursion on Fungi in torrential rain. A well-attended Follow-up Lecture and Discussion took place on the following Monday night in the Botany Department of the U.C.T. We are greatly indebted to Professor Lutjeharms and his helpers for the outstanding success of these events.

* * *

Mr. Clarice Morris, a member in Wentworth Falls, Australia, who graduated in Botany at the Sydney University, has written the following article on his experiences in cultivating South African wild flowers in Australia.

The Growing of South African Wild flowers in the Blue Mountains of New South Wales

Before I explain the results I achieved I should like you to visualize the environment. Wentworth Falls, where I live, is about 3,000 feet above sea-level, approximately 64 miles west from Sydney. The mountains are very old geologically, their tops consisting of worn plateaux chiefly of Hawkesbury sandstone. During the winter the prevailing wind is a cold westerly or south-westerly. Drainage is good because I am almost on top of the ridge. The soil is sandy to gravelly with slight clay base. The soil depth is about 12 to 18 inches. It is one of the best areas for the growing of the waratah, the national emblem of our state, and a cousin of the protea.

As I intended to grow waratahs commercially on my return from Africa, I had a glass-house built so that I could control germination conditions. Our climate is noted for extremes of dryness, of mist, hot sun and frosty temperatures in the winter. Because of the cold temperatures during the winter, sometimes down to 34 degrees Fahrenheit, it is difficult to germinate seeds, even in the glass-house during the winter, so I planted all the South African seeds in the spring, beginning in mid-September.

Most of the seeds were planted in a sandy leaf-mould in peat-pot containers which are available here. I planted out seeds of six varieties of protea; they included *P. nana*, *P. neriifolia*, *P. lepidocarpodendron*, *P. longifolia*, *P. compacta* and *P. cynaroides*.

P. neriifolia was the first to come up four weeks after planting. Germination was about 50 per cent of seeds planted. I have since planted out specimens of all the proteas and all have survived except *P. nana*. I have given a number of seedlings to friends in warmer climates as well. I planted out several specimens of each species in a northerly position against the brick wall of the house so that the plants would not only get the benefit of good drainage but also receive maximum winter sunshine. The soil is a mixture of sandy gravel with the addition of some black loam and a small handful of blood and bone some distance from the roots of the seedlings. All plants are doing well, but when the warmer weather comes I shall have

Lutjeharms, bygestaan deur mnr. G. B. Portsmouth en ander lede van die Departement van Plantkunde, U.K., gereël. Omtrent 50 lede het die uitstappie, wat oor swamsoorte gehandel het, in gietende reën bygewoon. 'n Opvolglesing en -bespreking, wat goed bygewoon is, is die daaropvolgende Maandagaand in die Departement van Plantkunde, U.K., gehou.

Ons is baie dank verskuldig aan prof. Lutjeharms en sy medewerkers vir die uitstaande sukses van hierdie byeenkomste.

* * *

Mnr. Clarice Morris, 'n lid van Wentworth Falls, Australië, gegradueerde in Plantkunde aan die Universiteit van Sydney, skryf die volgende artikel oor sy ondervindings met die kweek van Suid-Afrikaanse veldblomme in Australië.

Die Kweek van Suid-Afrikaanse Veldblomme in die Blou Berge van Nieu-Suid-Wallis

Voordat ek die resultate wat ek behaal het verduidelik, wil ek graag die omgewing vir u skets. Wentworth Falls, waar ek woon, is omtrent 3,000 voet bo seevlak, ongeveer 64 myl wes van Sydney. Geologies is die berge baie oud, die toppe bestaan uit verweerde plato's hoofsaaklik Hawkesbury-sandsteen. Koue westelike en suidwestelike winde waai in die winter. Aangesien ek byna bo-op die bergrug woon is dreinering goed. Die grond is sanderig tot gruisagtig met 'n effense klei bodem. Die diepte van die grond is omtrent 12 tot 18 duim. Dit is een van die beste streke vir die kweek van waratah, die nasionale embleem van ons staat en verwant aan die protea.

Aangesien ek voornemens was om waratahs kommersieel te kweek by my terugkoms uit Afrika, het ek 'n glashuis laat bou ten einde ontkiemingstoestande te beheer. Ons klimaat is bekend vanweë uiterstes in droogheid, mis, warm son en yskoue temperature in die winter. As gevolg van die koue temperature in die winter, soms tot 34 grade Fahrenheit, is dit moeilik om selfs in glashuise saad te laat ontkiem. Daarom het ek al die Suid-Afrikaanse saad in die lente, teen die middel van September, geplant.

Die meeste van die saad is in blaargrond in beskikbare turfpotte geplant. Ek het ses proteasoorte geplant, t.w., *P. nana*, *P. neriifolia*, *P. lepidocarpodendron*, *P. longifolia*, *P. compacta*, en *P. cynaroides*.

P. neriifolia het eerste ontkiem, vier weke nadat dit gesaai is. Ongeveer 50 persent van die saad het ontkiem. Ek het intussen van al die soorte proteas uitgeplant en almal behalwe *P. nana* groei. Ek het 'n aantal plantjies aan vriende in warmer dele gegee. Ek het verskillende plante van elke spesies in 'n noordelike posisie teen 'n steenmuur van die huis uitgeplant sodat die plante deur beter dreinering sal baat maar ook die maksimum winterson sal geniet. Die grond is 'n mengsel van sanderige gruis en swart leemgrond met 'n handvol bloed- en beenmeel nie te naby die wortels van die plantjies nie. Al die plante a better idea of their progress and adaptation to this climate.

Seeds of *Thunbergia alata* germinated well. I planted them out against strands of wire for climbing, but though they are still alive they are yellowy and only a couple of inches high. I had no luck with germinating *Clematis brachiata*, *Dais cotinifolia*, *Strelitzia parvifolia*, *Leucospermum catherinae*, though I think *L. incisum* has germinated. I mistook the seeds of *Leucodendron plumosum* for the leucospermum so I'm not sure which is which now. The seeds which germinated have a pinnately divided leaf.

Erica glandulosa germinated very well. I have planted the young heath plants out in the same bed as the proteas as I did not know how much cold they could stand. They are growing surely and steadily and at the time of writing are about 3 inches high. The most successful germination and subsequent growth of any seedling, excepting the protea, was with *Lobelia pinifolia*. some of the plants being about 8 inches high.

I water the South African plants before the sun reaches them and in the spring will give them a mulch of leaf-mould or compost to prevent excessive drying out. I think proteas will do well here, unless their growth is checked by the cold weather, because the soil here is acid and drainage is excellent; the natural surface ground being usually somewhat stony.

I read an article in a newspaper in South Africa before flying home, in which autumn—March and April—was mentioned as the best time to germinate the seeds. In this part of Australia spring planting is more successful for our natives because of the great slowing down of growth during the winter and often heavy rains. A few weeks ago we had 18 inches of rain in one week, which was exceptional, but ideal conditions for washing out young seedlings on a slope.

The seeds I received from Kirstenbosch a few months ago will be held over till the spring when I can control the conditions much better. With these notes I am enclosing some of our waratah seeds (*Telopea speciosissima*) in case you or your members would like to try germinating them in the spring under conditions fairly similar to those required for protea. Waratahs are particularly susceptible to damping off in the 3–4 leaf stage. They also need great care in transplanting so that the young roots are not disturbed.

* * *

On 25 February 1964 the Royal Horticultural Society awarded the Vietch Memorial medal to Professor H. B. Rycroft for his services to world horticulture. Sir George Taylor, Director of the Royal Botanic Gardens, Kew, accepted the medal on behalf of Professor Rycroft. The British Ambassador, Sir Hugh Stephenson officially presented the gold medal to Professor Rycroft on 3 April 1964. This is the second time that the medal has been awarded outside the United Kingdom. It was awarded in 1922 to Prof. R. H. Compton, a former director of the National Botanic Gardens of S.A.

groei mooi en sodra dit warmer word sal ek hul vordering en aanpassing by hierdie klimaat beter kan waarneem.

Thunbergia alata-saad het goed ontkiem. Ek het hulle uitgeplant om teen draadheinings op te rank, maar hoewel hulle nog leef is die plante gelerig en slegs 'n paar duim hoog. Ek het geen sukses met die ontkieming van *Clematis brachiata*, *Dais cotinifolia*, *Strelitzia parvifolia* en *Leucospermum cathrinae* gehad nie, maar ek dink *L. incisum* het ontkiem. Ek het die saad van *Leucadendron plumosum* met Leucospermum verwar en is nie seker wat is wat nie. Die saad wat ontkiem het het blare wat veervormig verdeel is.

Erica glandulosa het baie goed ontkiem. Ek het die jong heideplantjies in dieselfde bedding as die proteas geplant aangesien ek nie met hul uithouvermoë bekend is nie. Hulle groei goed en ten tye van hierdie skrywe is hulle 3 duim hoog. Met uitsondering van proteas, het *Lobelia pinifolia* die beste ontkiem en gegroei—sommige van die plante is reeds 8 duim hoog.

Die Suid-Afrikaanse plante word natgemaak voordat die son hulle bereik en in die lente sal ek hulle met blaargrond of kompos bedek om hulle klam te hou. Indien die groei nie deur koue weer vertraag word nie dink ek dat proteas hier goed sal aard aangesien die grond suur is en die dreinering goed, want die natuurlike grond is effens klipperig.

Voor my terugkeer per vliegtuig uit Suid-Afrika het ek in 'n koerant gelees dat die beste saaityd Maart/April is. As gevolg van stadige groei en dikwels swaar reën in die winter is dit beter om in hierdie deel van Australië ons inheemse saad in die lente te saai. Onlangs het ons 18 duim reën in een week gekry, 'n buitengewone geval, maar dit was ideaal om jong plantjies teen die hange oop te spoel.

Die saad wat ek 'n paar maande gelede van Kirstenbosch ontvang het sal tot die lente bewaar word want dan kan ek toestande beter beheer. Saam met hierdie artikel stuur ek 'n hoeveelheid waratah-saad (*Telopea speciosissima*) indien u of van u lede wil probeer om daarvan te saai in die lente onder soortgelyke toestande as wat vir proteas nodig is. Waratahs vermuf besonder maklik by die 3–4 blaar stadium. Hulle moet ook sorgvuldig uitgeplant word sodat die jong wortels nie gesteur word nie.

* * *

Die Royal Horticultural Society het op 25 Februarie die Veitch-gedenkmedalje aan professor H. B. Rycroft toegeken vir sy bydrae tot wêreld-tuinboukunde. Sir George Taylor, direkteur van die Royal Botanic Gardens, Kew, het die medalje namens professor Rycroft ontvang. Op 3 April 1964 het sir Hugh Stephenson, Britse ambassadeur in Suid-Afrika, die formele oorhandiging aan professor Rycroft gedoen. Dit is die tweede keer dat hierdie toekenning buite die Verenigde Koninkryk gedoen is. In 1922 het prof. R. H. Compton, gewese direkteur van die Nasionale Botanicse Tuine van Suid-Afrika, dié goue medalje ontvang.

Hortulanus (Kurator) H. Herre
en die Botaniese Tuin van die Universiteit van Stellenbosch

W. J. Tijmens
Botaniese Tuin, Universiteit van Stellenbosch

Die voorstelle vir die oprigting van 'n botaniese tuin is deur die Senaat in 1923 goedgekeur. Wyle prof. dr. Nel, wat onder die leiding van prof. Engler gepromoveer het, was destyds die hoof van die afdeling Plantkunde aan die Universiteit van Stellenbosch. Tydens sy verblyf in Europa het prof. Nel 'n spesiale studie van botaniese tuine gemaak. Prof. Nel was buitengewoon gelukkig om in 1925 mnr. Herre as kurator te kan aanstel.

Mnr. en mev. Herre het van Duitsland na Suid-Afrika gekom. Hier het hy as kurator begin en 'n botaniese tuin opgebou wat later oor die ganse wêreld bekend sou wees.

Gedurende die jaar (1963) het die Botaniese Tuin op waardige wyse die veertigjarige bestaan herdenk met 'n tentoonstelling. By die opening daarvan was alle lede van die Senaat en hulle gades aanwesig.

'n Groot eer het die Tuin en personeel tydens die tentoonstellingsweek te beurt geval met die besoek van ses-en-veertig plantkundiges uit een-en-twintig verskillende lande. Die oorsese besoekers waaronder sir George Taylor van Kew Gardens, prof. Riley van die V.S.A. en andere was in Suid-Afrika op uitnodiging van die Jubileumkomitee van die Nasionale Botaniese Tuine ,,Kirstenbosch" wat verlede jaar sy vyftigjarige bestaan gevier het.

Van sy eerste versameltog in Namakwaland in 1929 het mnr. Herre een-en-dertig kiste met plante teruggebring. Na verskeie togte in later jare, nl. na die Richtersveld, Klein- en Groot-Karoo, het sy versameling aangegroei tot een van die beste ter wêreld. In 'n droë wêreld vol stof en dikwels met wa en esels, verstoke van alle moderne geriewe, was hierdie reise tog vir hom 'n plesier. Die kurator gee 'n interessante beskrywing van sy reise in ,,Sammelreise" en in ander artikels wat in talle van tydskrifte verskyn het. In *Hunting for Stapelieae in the Richtersveld* deur die skrywers Alain White en Boyd L. Sloane, gee mnr. Herre ons 'n lewendige indruk van die omgewing en omstandighede waaronder die reise plaasgevind het. Ons lees daar o.a. ,,While going forward amid all these troubles, no matter how hot and thirsty, one must never relax from watching out for plants, and when any are seen they must be gathered, photos taken in the natural environment, herbarium material collected and last but not least, every step must be taken cautiously so that one does not tread on snakes, which are plentiful everywhere".

Saam met die bekwame assistent, mnr. Meyer, het hulle nie alleen sukkulente versamel nie, maar het die Botaniese Tuin verder ontwikkel deur die invoer van plante uit alle wêrelddele. Sukkulente het egter eers onder prof. Nel en ook daarna onder die teenswoordige hoof van die departement, prof. P. G. Jordaan, die vernaamste plek ingeneem. Die kurator was hierdeur in staat om 'n diepgaande studie van hierdie plante te maak. Dit het hom later in staat gestel om 'n groot bydrae te lewer tot talle wetenskaplike publikasies soos bv:

prof. Nel se boeke *Lithops* en *Gibbaeum*;

White en Sloane, *Stapelieae*, drie dele;

White, Sloane en Dyer, *Euphorbiae*, drie dele; (The succulent *Euphorbiae*);

H. Jacobsen, *A Handbook of Succulent Plants*, drie dele. In laasgenoemde is o.a. die sleutel vir die geslag *Mesembryanthemum* deur H. Herre en prof. Volk gepubliseer.

Plate 2. *Prof. H. B. Rycroft, die Direkteur van Kirstenbosch, en Sir George Taylor, Direkteur van „Kew Gardens"—by die welwitschiaplante in die glashuis van die Universiteit van Stellenbosch.*

Plate 3. *H. Herre (voormalige Kurator van die Botaniese Tuin, Stellenbosch), afgeneem in die glashuis van die Universiteit van Stellenbosch.*

DIE GOUE JUBILEUM BOTANIESE TOER.

Oor die benaming van die verskillende sukkulente is die wetenskaplikes dit nie almal eens nie. Daar moet volgens kurator Herre nog baie navorsing gedoen word. Ons is nie verbaas as ons dink dat die geslag *Ruschia* alleen reeds oor die 300 soorte tel nie. Mnr. Herre het offisieel afgetree, maar met sy navorsing gaan hy voort. Mnr. Herre werk onder meer saam met dr. H. Bolus wat reeds 'n hoë ouderdom bereik het. Ook word gedagtes reëlmatig gewissel met die bekende sukkulentedeskundige, mnr. H. Hall, wie die sukkulenteversamelings in Kirstenbosch beheer. Mej. Barker, kurator van die Compton Herbarium het o.a. hierdie jaar nog weer 'n plant na mnr. Herre vernoem, nl. *Brunsvigia herrei*, wat beskrywe is in *The Journal of South African Botany* (1963 uitgawe).

Ook in Europa is mnr. Herre nie onbekend nie. So het hy o.a. saamgewerk met wyle mnr. Uitewaal en werk ook saam met dr. de Boer, dr. Boom, dr. Ihlenfeld en andere.

Om die leser 'n indruk te gee hoe mnr. Herre 'n deel uitmaak van die flora van Suid-Afrika volg hier 'n lys van plante wat na hom vernoem is of deur homself beskrywe is:

AIZOACEAE

Astridia herrei L. Bol.
Cephalophyllum herrei L. Bol.
Cephalophyllum herrei L. Bol. var. *decumbens* L. Bol.
Cheiridopsis herrei L. Bol.
Conophyllum herrei L. Bol.
Conophytum herrei Schwant.
Glottiphyllum herrei L. Bol.
Herrea nelii Schwant.
Hereroa herrei Schwant.
Herreanthus meyeri Schwant.
Lithops herrei L. Bol.
Lithops herrei L. Bol. var. *plera* L. Bol.
Leipoldtia herrei (Schwant) Schwant.
Melephora herrei (Schw.) Schwant.
Odontophorus herrei L. Bol.
Psammophora herrei L. Bol.
Ruschia herrei Schwant.
Schwantesia herrei L. Bol.
Arenifera pillansii (L. Bol.) Herre
Delosperma nakurense (Engl.) Herre
Delosperma oehleri (Engl.) Herre
Trichodiadema schimperi (Engl.) Herre
Jensenophotrya lossowiana Herre

ASCLEPIDACEAE

Huernia herrei Wh. et. Sl.
Stapelia herrei Nel.

LILIACEAE

Haworthia herrei v. Poelln.
Gasteria herreana v. Poelln.
Astroloba herrei Uitwal.

AMARILLIDACEAE

Cyrthanthus herrei
Gethyllis herrei L. Bol.
Brunsvigia herrei Leighton ex Barker

IRIDACEAE

Homeria herrei L. Bol.

PORTULACACEAE

Anacampseros herreana V. Poelln.

GERANEACEAE

Sarcocaulon herrei L. Bol.

CRASSULACEAE

Crassula fusca Herre
Crassula herrei Fridr.
Adromischus herrei (Bark.) v. Poelln.

COMPOSITAE

Othonna herrei Pillans
Senecio herreanus Dtr.

In Stellenbosch moet die sukkulente net soos in Kirstenbosch in glashuise gekweek word. Stellenbosch het 'n gemiddelde neerslag van 700 mm. per jaar. Daar is twee glashuise gebou waarin die plante volgens hulle geografiese verspreidingsgebiede geplant is. Behalwe versamelings van *Adromischus*, *Lithops*, *Ruschia*, *Fenestraria* e.a., vind ons verskeie blaarwisselende

Pelargoniums, asook plante soos *Gethyllis* (koekemakranka), *Pachypodium namaquanum* (halfmens), *Adenium boehmianum* (Boesmanspylgif), *Fockea crispa*, ens. By baie het die tuin ook bekend geword deur die suksesvolle kweking van *Welwitschia bainesii*. Dit is die eerste maal dat hierdie plant van saad tot saad gekweek is. Die natuurlike groeiplek vir die Welwitschiaplant is langs die Skeleton Coast, in die Namibwoestyn en Angola. Wyle prof. Rudolf Marloth het die saad van hierdie plant aan die kurator in 1929 oorhandig en dit was meer as twintig jaar later dat die eerste vroulike keëls verskyn het, wat deur vandale afgeruk is. Dit is egter verheugend om te sien dat dieselfde plante elke jaar blom en saad voortbring. In die natuur dra 'n wesp die stuifmeel van die manlike plant oor na die stempel van die vroulike plant. In die glashuis moet bestuiwing egter kunsmatig teweeggebring word. Die Welwitschiaplant kan 'n omvang van meer as 25 voet bereik. Botanies is die Welwitschiaplant ook buitengewoon interessant aangesien dit onder die *Gymnospermae* ressorteer. Die plante kan baie oud word. In Amerika is die ouderdom van 'n Welwitschiastam van middelmatige grootte, wat deur mnr. Herre daarheen gestuur is, vasgestel deur die toepassing van die C14-metode. Dit is bepaal dat hierdie stam sewehonderd jaar oud was, en ons kan dus aanneem dat die Welwitschiaplant tot oor 'n duisend jaar oud kan word.

Verskeie erelidmaatskappe is Hortulanus Herre aangebied, o.a. deur die Duitse Kaktusvereniging. Die Regering van Wes-Duitsland het aanvanklik besluit om Hans Herre die „Kruis van Verdienste" aan te bied, maar omdat Herre 'n genaturaliseerde Suid-Afrikaner is, was dit nie moontlik nie, en het die Duitse ambassadeur in Suid-Afrika hom namens sy regering 'n boek aangebied met die inskripsie:

> Herr Hans Herre in dankbarer Anerkennung seiner Verdienst als Deutscher Botaniker in Südafrika.
>
> Pretoria, den 1. Februar 1963
> K.K. Overbek,
> Deutscher Botschafter.

Dit is ons almal se wens dat mnr. Herre nog baie jare met sy familie mag deurbring en met sy lewenstaak, die ondersoek en die belangstelling in die sukkulente van Suid-Afrika, mag voortgaan.

Die skrywer is baie dank verskuldig aan die hoof en personeel van die afdeling Plantkunde en Hortus van die Universiteit van Stellenbosch vir die groot hoeveelheid informasie deur hulle verstrek en foto's deur hulle verskaf.

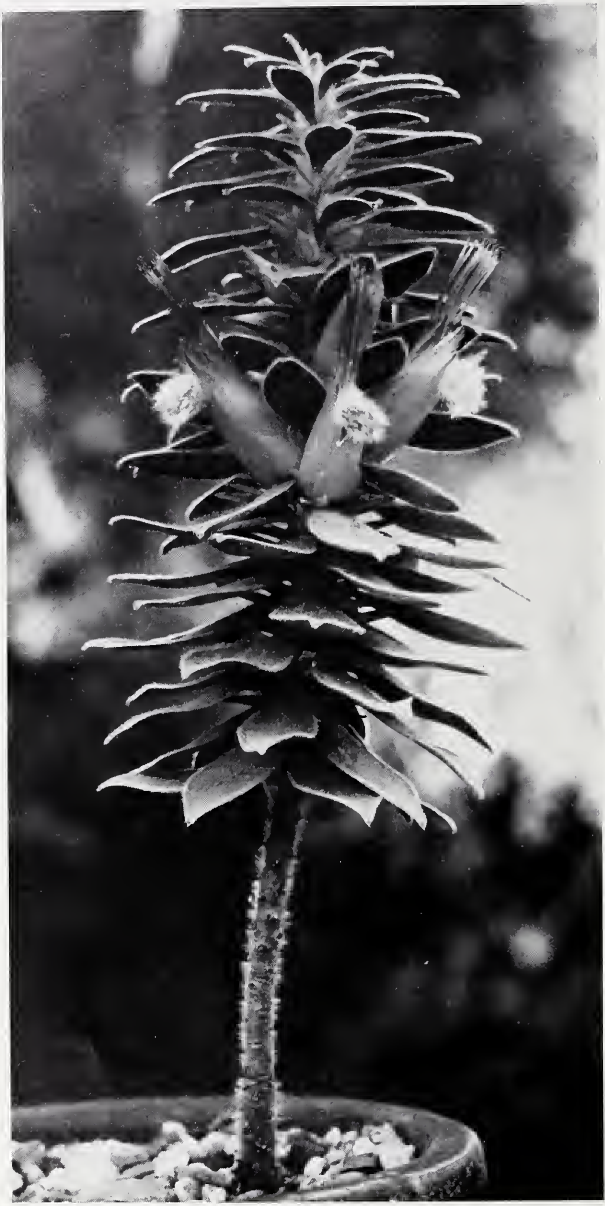

Plate 4. *Mimetes Hirta.*

FOTO: Dept. van Plantkunde,
Universiteit van Stellenbosch.

Die Vegetatiewe Vermeerdering van *Mimetes Hirta*

W. J. TIJMENS

Botaniese Tuin, Universiteit van Stellenbosch

TOT op datum is nog nie veel navorsing gedoen aangaande die kweking van Suid-Afrikaanse veldblomme nie. Baie skaars en pragtige plante is nog steeds aan ondergang en uitsterwing blootgestel, nie alleen as gevolg van die bekende bedreigings soos uitheemse plantegroei, boerdery, bebossing, paaie, landelike vooruitgang, ens. nie, maar ook omdat ons nie die kennis aangaande „die kweek van hierdie skaars en dikwels pragtige plante" besit nie. In Europa word reuse vooruitgang gemaak met tuinboukundige navorsing, aangesien aankwekingsprobleme soos dié wat ons in die gesig staar, deeglik ondersoek en opgelos word.

Weer eens moet die belangrike rol wat blomme van Suid-Afrikaanse oorsprong in oorsese markte speel, benadruk word. Beide tuinboukundiges en plantkwekers moet die eer toegeken word vir die verbeterings en goeie resultate behaal op die gebied van ons eie veldblomme.

Suid-Afrikaanse tuinboukundige geskiedenis het begin in die dae van Van Riebeeck, maar dié vooruitgang kon nie tred hou met ander, soos bv. industrie, nie. Suid-Afrika behoort dientengevolge sy eie tuinboukundige navorsingsinstituut te stig, en ook 'n fakulteit vir tuinboukunde aan een van ons eie universiteite.

Dit is daarom verblydend om die resultate te sien wat behaal is deur individuele persone, soos mnr. Helmut Meyer by die Botaniese Tuin van die Universiteit van Stellenbosch. 'n Steggie van *Mimetes hirta* is geneem op 11 Junie 1963, en dit het vir 48 uur bly lê voordat dit geplant is in 'n vyfduim-erdepot. Die pot is gevul met 'n laag growwe riviersand op die bodem vir dreinering. Bo-op die riviersand is 'n lagie fyn gruis aangebring, om te verhoed dat die sand met die natmaak wegspoel, om die mikroklimaat vogtig te hou, dit voldoende deurlugtig te hou, terwyl dit terselfdertyd voorkom dat mos rondom die steggie groei.

Die pot met die steggie is hierna in 'n onverhitte glashuis met voldoende belugting gesit. Aangesien die plant maklik kan doodgaan, is geen waarneming gemaak om vas te stel wanneer die eerste wortels gevorm is nie. Die steggie het besonder goed gegroei en al die knoppies (ogies) het ontwikkel en geblom. So het mnr. Meyer daarin geslaag om 'n *Mimetes hirta* te kweek wat 'n baie aantreklike potplant is, en sedert die begin van 1964 tot op datum (begin Julie 1964), nog steeds blom. Daar moet op gelet word dat mnr. Meyer die plant van tyd tot tyd gevoed het.

Some Happy Reflections and Impressions

JEAN HARVEY

IN an atmosphere of peace and quietude, situated in a world-renowned garden, is a little building of rustic charm—the office of the Botanical Society of South Africa. Growing only a few yards from the window of my office is the delicately beautiful *Serruria florida*, which is my favourite wild flower. Seeing this now in bloom, I am reminded of a remark made by a well-wisher recently: 'You are working in one of the most beautiful places of the world!' Hardly a day passes by without my realizing and appreciating this truth anew.

Invariably, while watching the various schoolchildren pass by my window on their way to the Lecture Hall, I recall that my love for Kirstenbosch had its beginning at a tender age. While in primary school, a visit to Kirstenbosch was considered one of the highlights of the term. It was Miss M. E. Johns, the nature study teacher here at that time, who first awakened in me a vital spark of interest and a love for our flora. I hear her saying, as she said when we viewed the Gardens under her skilful supervision (in a voice that commanded obedience): 'Remember, eyes on and hands off!'

It was a happy discovery, therefore, to find that she was a member of the Council of the Botanical Society of South Africa. I am indebted to her for inspiring me with confidence, because although I had set my heart on obtaining the post as Secretary/Treasurer, it was not without a measure of apprehension that I commenced. The tragic death of my predecessor, Wyn Hall, was a cloud over my joy in being successful, and the knowledge of the ability and charm with which she had performed her duties over a period of sixteen years presented a challenge indeed. This cloud has been dispelled by the spirit of warmth and friendliness shown towards me by the National Botanic Gardens staff and in particular Professor H. B. Rycroft, in whom I have found a friend. A feeling of oneness was soon established between myself and members who voluntarily gave assistance in the office and this gave the assurance that I was accepted. Other members have called in at the office to inquire how I was faring and these incidents are gratefully remembered.

One of the main duties of a secretary is 'To write', and through the correspondence there is ample scope for keeping in close contact with the members of our truly international society. One of the aspects which appeals to me most is the informal nature of the majority of letters received. The spirit evident is a willingness to share and indeed we do all share (despite our varied ways of life) a common love and interest—the preservation of our indigenous flora. Typical of these letters is one recently received, where a member requested a duplicate seed list, adding this explanatory note: 'Omdat daar 'n tweejarige seuntjie in ons huis is, sal u goed kan verstaan hoe ons saadlys weggeraak het!' Immediately I was endeared to that mischievous little boy! Another parent mentioned, when making inquiries regarding our membership, about the interest shown by his children in the wild flora of the eastern Cape, and he described how he was endeavouring to promote their interest. A member from Germany, who recently enrolled, generously offered a selection of plants from his collection 'als Geschenk an Sie' and assures me that he is hoping to be able to write in English soon. With the assistance of a Swiss friend who is a linguist, I am endeavouring to master a little more German!

Since working at Kirstenbosch, my 9-year-old nephew David keeps me 'up to the mark' by asking for the scientific names of our wild flowers. Sharing an affection is a great joy, and as I watch his interest unfold with an enthusiasm which is the spirit of a child, I am encouraged to extend this interest.

TWO 'PROTEOLOGISTS' TRIP TO THE TRANSVAAL AND NATAL

W. J. MIDDELMANN

'I have two "Proteologists" here from the Cape', said the friendly old doctor in Barberton to his daughter on the phone when he arranged a little film show for us at her house. A couple of years back he had discovered a low-growing variety of *Protea rouppelliae* in his area, discussed it with scientists and arranged for its protection with the Forest Department. I liked his coining of that word and it could well be applied to us on the trip we undertook at the end of 1963 through the Transvaal and Natal.

As my wife had been sending protea plants and seeds to areas away from the Cape since about 1949 we had long felt the urge to see what had become of them. The Kirstenbosch Jubilee Year was very appropriate. Since the pioneer work in Johannesburg and Pretoria by 'The Wilds', Sima Eliovson and Marie Vogts, our Cape proteas have gone a long way. They have become quite fashionable! A drive along the Reef shows them today in gardens not only in the northern suburbs or in Waterkloof but also in Florida and Klerksdorp. Nurseries have sprung up in a number of places. There is talk of large-scale flower production, even of future exports. Certainly one meets enthusiasts everywhere.

Our first call was on a well-laid-out nursery south-west of Johannesburg. Not only did we see thousands of plants being raised in containers and some nice shrubs flowering at the entrance, but we were shown most extensive plantings along a gently sloping hillside with a warm aspect in winter, each seedling planted in a little pocket joined to a fully contoured irrigation scheme. Here is something we certainly never thought of at the Cape, but up there watering in winter becomes a necessity. No wonder then things grow so much faster and flower earlier! Their biggest risk in the north, other than a water shortage, is obviously frost. Some people in cold hollows have lost a lot of plants and it does not seem that an acclimatization to the reversal of the wet/dry seasons or to frost susceptibility takes place, even where seed has been collected from Transvaal-grown plants. Those species which, at the Cape, grow at higher altitudes where they naturally get occasional frost or even snow will also stand up to the cold better in the Transvaal. Those like, say, *Leucospermum conocarpum* and *nutans*, which do not know frost at their original locality, seem to continue suffering there to a varying extent.

Next we saw a large private planting on a property near Krugersdorp, where *P. caffra*, *rouppelliae* and *hirta* naturally occur. Here, amid the cooling rock krantzes, water does not seem to be of such great importance nor are the effects of frost as strong as in more level areas. There were at least 50 species doing well.

From there to 'The Wilds'. I think here again the rocky nature of the terrain plays a big part in the successes obtained. Many of the older bushes have reached almost tree size, and similar 'giantism' seems to occur with the ericas. It seems astonishing when one considers the so very different seasons that flowering times seem to coincide fairly closely with those at the Cape. *Serruria florida* is usually a bit later, *P. neriifolia* a bit earlier, leucospermums rather on the late side. Certainly everything flowers with good, strong colours. Plants seem to set seed well too.

A lovely garden at Florida was next on the programme, not large but with plants that have won many prizes and are the pride of the owner. Here, as elsewhere, a look over the neighbour's wall shows how the interest spreads. It strikes one, after seeing a few places, that the *Leucospermum nutans* are often very spotted on their leaves, probably not only from frost, and that *P. barbigera* seem to suffer from fungus diseases and are generally rare considering the popularity of their showy flowers. But on the whole most plants have very clean foliage, with probably less endemic insect pests than we have in the south in their natural habitat.

The man who put the Melville Koppies Nature Reserve on the map took us over its 'Nature Trail'. Here is a small bit of the original Witwatersrand, kept quite unspoilt and fully protected, and *Protea caffra* is still prominent. Proteas were much discussed that day at our friend's house and in that of Sima Eliovson.

Then came the fine gardens of Waterkloof, Pretoria, and a call on the Botanical Research Institute. Some interesting things were seen among their material and in the library. It was a real privilege to watch Cythna Letty at work in her tiny corner from where have gone out the countless botanical illustrations we all know so well. The director was kind enough to guide us through the Botanic Gardens at Brummeria, where certainly the more 'orderly' way of setting out the protea plants in holes dug in large lawns contrasted with the treatment at 'The Wilds' or with Kirstenbosch. Here for the first time we found planted not only the Cape species but also a selection of the summer-rainfall species, less spectacular though they are as far as their flowers are concerned.

Just outside Pretoria we visited another nursery where both proteas and ericas are raised. The ericas, in particular, were really fine. A considerable number of well-established plants already formed a solid base of own seed, and the way the little seedlings came up in their containers made us very envious. Here, apart from love and green fingers, seems to be a good combination of soil and climate at work, with water the only limiting factor. Where our plants stand more or less still but survive the dry summer, theirs would not get over the winter without regular watering. Frost does not worry the Pretoria people as much as those on the Rand.

There was a funny interlude during our calls on some florists with whom we have connexions. Evidently somebody has produced a very striking, large and very blue form of a flowering artichoke and, it being so similar in shape and size to *P. cynaroides* (which of course means 'artichoke-like') called it the 'Blue-te-a'. Shows you how pro-te-as today have caught the public's fancy!

Travelling through the eastern Transvaal we had a chance to see some of the summer-rainfall species in their natural habitat. The Blyde River area and Mariepskop beyond Sabie/Graskop not only offers one of the most striking and beautiful landscapes in South Africa, but also has a very rich and verdant vegetation. Very high up we saw *P. rubropilosa*, with its red flower probably the most beautiful of the Transvaal species (yet not match to what we Kaapenaars have got) and there were also *P. comptonii*, *gaguedi* and *rhodantha*.

Stopping over at sweltering White River, down now in the Lowveld, we were shown not only a remarkable collection of succulents on a farm, but also one of the finest heads of *P. cynaroides* I have ever seen, for size and colour, and 'Blushing Bride' plants which flower three times a year! Here and visiting an old friend's nursery near Barberton we were pleasantly surprised how well our proteas can stand even these conditions of heat and often humid warm air. Things certainly grow fast there.

At Mbabane in Swaziland we were heartily welcomed by Dr. Reynolds, of aloe fame, and Professor Compton, whose herbarium we unfortunately could not manage to see. Dr. Reynolds has planted his huge and varied collection of aloes grouped in an admirable way all over a very large and picturesque granite koppie on his property. The geographical grouping even includes a rock-lined 'island' situated off the koppie in the garden, representing Madagascar! And an appendix towards the south represents the Cape, with a very fine collection of our heaths and proteas, most of them doing very well indeed. A local nursery assured us, too, of the continued interest of clients of theirs and of the very successful growth of plants they had from the Cape. We saw a few specimens of *P. gaguedi* on the roadside, rather uninspiring.

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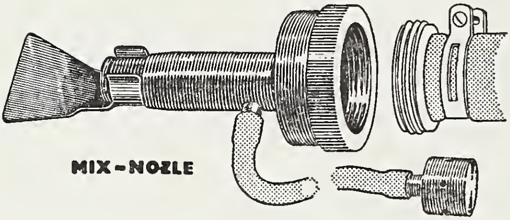

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The next project was a field meeting arranged by the Tree Society for the December long week-end at Tendele, a Natal Parks Board Rest Camp just above the well-known National Park Hotel. The Johannesburg Tree people are real enthusiasts, about sixty of them having come almost 400 miles to spend three nights and days in the Natal mountains. We were among the very few 'country members' and the only ones from the Cape. How knowledgeable they were and how well organized the local excursions, lectures, roneoed plant lists and explanations in the field turned out to be. They had even brought, all the way from Pretoria, Dr. Killick, author of a recent Botanical Survey volume about the area, complete with a magnificent set of colour slides. The superb amphitheatre of the Drakensberg contains *P. multibracteata* right around the camp, also *P. rouppelliae* near by, *P. dracomontana*, *subvestita* and *simplex* which are further afield, and all of it is strictly protected and jealously guarded by the kindly warden. For the last year or so he has started building up an herbarium of his 'kingdom' on his own initiative. Ericas are not plentiful, but you find *E. cerinthoides*, *caffrorum* and others. It certainly is striking how, just as in the Transvaal escarpment, the heights contain something like our Cape 'fynbos' flora, although down below everything is so totally different.

Talks with the Johannesburgers again showed their great interest in the Cape flora, not only in the trees, and some individuals' particular enthusiasm for Kirstenbosch and membership of the Botanical Society. The Jubilee Year of 1963 has certainly had a deep effect.

On leaving the camp we once again saw a large number of well-growing proteas at a nursery north of Pietermaritzburg, many of its species having originated from us. It was interesting to note that they are working on an antidote to what is probably a trace element deficiency causing discoloration of foliage in some plants in that area. Here again growth was exceedingly rapid and flowering and colour of the blooms excellent.

That night we spent at Hillcrest, just above Durban. We had the privilege of staying in a beautiful house surrounded by a large garden comprising a collection of about 2,000 flowering shrubs from all over the world, including a goodly proportion of indigenous ones and specially also ours from the Cape, with a fine growth of ericas among them. This was a more formal garden, but not far from here we visited a doctor who has probably the largest 'plantation' of already fully-grown large specimens of proteas outside the Cape. Visualize a slope facing the Valley of a Thousand Hills and on it row upon row of protea, leucadendron and leucospermum shrubs, some bearing flowers even at this time of the year, and all of them surrounded by the lush, green grass which naturally covers these slopes. While we were there this lovely ground cover was being cut by motorized lawnmowers, an essential job to prevent it getting too rank and to reduce the fire risk, and in my opinion an ideal and rather pleasant method of cultivating a protea field.

It was but a short run to Richmond, Natal, where an old friend of ours years back established one of the first protea nurseries outside the Cape. Not so long ago a magazine published an illustrated feature in which they stated that a *P. neriifolia* at this site had grown to 120 ft. high! It seemed a bit incredible being higher than the tallest sugargums we know in the Western Province. Well, while this one turned out to be a journalist's dream, or error, and the exceptionally tall bush referred to, by the way, was really a *P. mundii* since defunct, of about 20 ft., we had the satisfaction of hearing that the original plant had been one of ours. However, here again there seems to be a bit of 'giantism' in the growth of *P. neriifolia* and others under the soil and climatic conditions of Richmond since there were quite a number of bushes of about 15 ft. to 18 ft. high.

A long drive through protea-less but beautiful country took us via East Griqualand, Transkei and Ciskei back into Protealand proper from Grahamstown onwards, with another break to just beyond Port Elizabeth. From here things looked more like home and do not fall under the scope of these notes.

THE GOLDEN JUBILEE YEAR OF KIRSTENBOSCH

THE NARRATOR — PROFESSOR H. B. RYCROFT

(*A feature programme broadcast by all stations of the South African Broadcasting Corporation,* 28 *August* 1963)

Published with permission of the South African Broadcasting Corporation

WRITING about a place he visited on the eastern slopes of Table Mountain, the explorer and botanist, William Burchell, said:

> 'The view from this spot is the most picturesque of any I have seen in the vicinity of Cape Town.'

This is where Kirstenbosch Gardens now lie. Various other people have described it as 'South Africa's largest and best-loved garden' and 'South Africa's gracious ambassador abroad'. Well Kirstenbosch is all these and much more. It has its own meaning and usefulness, if that is the right word, to all kinds of people, botanists and horticulturists of course, educationists and many others who make use of it professionally. Then there is the man in the street, be he gardener, or just someone who visits Kirstenbosch to enjoy the sight of the flowers and the beautiful surroundings. And let's not forget the children.

> SMALL CHILD: 'Gee—It's super there, and lots of people should come and see the flowers, and I would love to swim in Lady Ann Barnard's Bath!'

Perhaps one day little Miss Six Year Old will want to know why it is called Lady Ann Barnard's Bath, and she will learn something of the history and purpose of the Gardens.

Kirstenbosch was proclaimed the National Botanic Gardens of South Africa by an Act of Parliament in 1913. Cecil Rhodes bought Kirstenbosch in 1895 and after his death the land became Crown land in trust for the people of South Africa.

The man who perhaps did more than most about the selection of the site and the establishment of the Gardens was Professor Pearson. For years botanists had been urging the need for an institution devoted to the scientific cultivation and study of our indigenous plants. When Harold Pearson arrived in 1903 to occupy the Harry Bolus Chair of Botany at the South African College, he seized on this idea. Dr. Louisa Bolus, a niece of Harry Bolus, outlines some of the events which followed:

> DR. LOUISA BOLUS: 'The foundation of the Botanical Gardens was often discussed as one of the best means of protecting the flora of South Africa. The scheme was first discussed before the Society for the Advancement of Science and this site was chosen. It happened to be Government Ground and they had to approach the Government therefore to allow them to use this ground as National Botanic Gardens. A deputation went to General Botha, who said he would like some proof that the public actually did want these Gardens. To give him that proof the Botanical Society was formed and members joined up and he was quite satisfied with the results and gave his consent when the ground was made over to the Trustees for the purpose of creating a National Botanic Garden, with Dr. Pearson as the Director.'

One of Mrs. Bolus's lifelong friends is Mrs. Helen Burton, now also in her eighties. She was a member of the deputation which went to see General Botha:

> MRS. HELEN BURTON: 'They only gave us a grant of £2,500. Pretoria at that time was getting £30,000 a year for their zoo. It is good that the public should know these things. The public's memory is very short. We have made paths and things with the money that came from the Life Members and we sold acorns. We sold hundreds of bags of acorns and cut wood and that really kept us going because our membership was very small in the beginning. Mrs. Bolus was enlisted as a member then. She said to me "Let us form a Wild Flower Protection Society" and we trained some girls—of course she is a tip-top botanist—to bring the schools to Kirstenbosch. She said: "You know that lots of little children have never seen a butterfly." Of course now you know that schools come every day to Kirstenbosch. It is a wonderful thing.'

In the case of Kirstenbosch it can truly be said that from little seeds grew large trees. One of the main branches of our tree is the educational one. Since 1923 children have been coming to Kirstenbosch for natural history lessons, and in 1940 a lecture hall was built. The first teacher was Letitia Starke and after her came Muriel Johns. She is retired now but still takes an active interest in this work.

> MURIEL JOHNS: 'Classes come mainly from the primary schools in the Cape Peninsula. A certain number of high schools make use of the service and the occasional country school, but the main aim and object is to get the children out in the open. Kirstenbosch, we like to feel, is an outdoor museum. These gardens are here for people who want to learn and for the benefit of those who come here just to enjoy the beauty of the Gardens.'

Of course botanists, too, come here to Kirstenbosch to study. Apart from the living plants, their interest centres on the Herbarium. This briefly is where we preserve, study and classify plants according to genus, species and so on. The Herbarium is now named after Professor Compton who succeeded Pearson as Director.

> MISS BARKER: 'We do regard the Herbarium as the centre of the Gardens, as systematic botany is the foundation on which all other botanical sciences depend. We do not like to be regarded as moth-ball botanists. We like getting out into the fields and seeing things as they grow and of course it is very important. You see the vegetation. You see the position in which the plant grows, the entomological side of it and it all helps you to decide the identity of the plant in the Herbarium.'

There you heard Miss Buddy Barker. She has been on the staff for 34 years and is curator of the Herbarium and in charge of a collection of some 200,000 sheets of plant specimens. Collecting both for the Herbarium and for planting in the Gardens is of course important and all members of the staff assist in this activity. The Assistant Curator, Alec Middlemost, has been on many expeditions since he came to Kirstenbosch in 1922.

> MR. MIDDLEMOST: 'In those days we used to use an ox-wagon but today it is different. We have lorries and our last acquisition was a caravan. We go as far as we possibly can to places where we know certain plants exist, especially plants that have been lost for a number of years. Recently I went off with the Herbarium staff and we were looking for two gladioli, between Lambert's Bay and the Cedarberg. We found both of these, and Miss Barker and Dr. Lewis are very pleased about it.'

Nearly half a million people visit Kirstenbosch each year, but some of you may not have had this pleasure.

The Gardens lie at the foot of Table Mountain on the eastern side, about 7 miles from the centre of Cape Town. The area is 1,200 acres and the Gardens extend right to the very top of the Mountain. In the cultivated portion we try to grow as many of South Africa's indigenous species as possible, ranging from the insignificant varieties to the showy and spectacular types, such as the vygies and the proteas. The Horticulturist in charge of the Protea Section is Louis de Villiers, another of our veteran workers.

> MR. DE VILLIERS: 'Our aim is to get as many species as we can, but as far as I can remember there are still a lot of species that we haven't got, and we have also lost some species, of which we had only one or two plants in the old days. Just like human beings, you can't help it, sometimes they die off. When we hear of a protea that can be found in such and such a place, we make an effort to find it and see if we can't get it and bring it down to Kirstenbosch to raise it here.'

Unlike most botanic gardens, Kirstenbosch concentrates exclusively on the plants of its own country, and, bear in mind, South Africa is probably the richest floral region in the world.

We have had considerable success in our efforts and it is on record that we have saved a number of species from probable extinction. These include the 'Blushing Bride', several proteas and many succulents, but not all of our plants, notably those from the more arid parts, will tolerate the Kirstenbosch climate.

For this reason several regional gardens have been established in other areas under the control of Kirstenbosch. Among these are the Karroo Garden at Worcester, with its extensive succulent collection, reserves at Betty's Bay and Darling and a small one on the Cape Flats.

This area was donated to Kirstenbosch by Miss Edith Stephens, for many years an authority on mushrooms and on the flora of the Cape Flats.

> MISS STEPHENS: 'That reserve was started largely in order to preserve an exceedingly rare and interesting water plant which grows in the pools. There are also a number of ground orchids on this particular spot and one will be able to plant others such as the sugar-bush and heaths and thus have one real sample belonging to and looked after by Kirstenbosch of what the Cape Flats flora used to be.'

The rare water plant mentioned by Miss Stephens is a primitive member of the fern family known as *Isoetes capensis*, and as far as we know it grows nowhere else in the world. Of course another way of preserving our flora is to encourage widespread cultivation of our plants. We supply seeds to nurserymen all over the world, and the 4,000-odd members of the Botanical Society also grow our plants in many different countries.

> MR. DUDLEY D'EWES: 'Various classes of members of the Society are entitled to a free issue of seeds of indigenous plants collected and sorted and so on at Kirstenbosch every year. The actual amount of seeds is determined by the Trustees and sent out by the Gardens. This is one of those examples of very very close co-operation between the Society and the Gardens which has been going on for fifty years and which we all should do our very best to preserve.'

That was Mr. Dudley D'Ewes, Chairman of the Kirstenbosch Board of Trustees and president of the Botanical Society of South Africa. As Mrs. Bolus told us earlier, this Society was formed at the same time as the Gardens.

In the fifty years since then it has been one of the mainstays of Kirstenbosch by way of

Plate 5. *In the Great Kei Valley — Botanical Tour*, 1963.
(*Back*) Prof. R. H. Compton, Mr. Bertel Nordenstam (Sweden),
Dr. Rocha da Torre (Portugal).
(*Front*) Mr. Ronald James (Southern Rhodesia),
Mrs. Anne Bean (Kirstenbosch).

general and financial support, but more assistance is needed for development, particularly for the establishment of a Research Institute and the expansion of our educational facilities.

During this Golden Jubilee Year of ours we are hoping that the public will respond to our appeal for funds for these essential undertakings. As for the celebrations themselves Colonel Terblanche, Jubilee Director, tells us something about them.

Colonel Terblanche: 'The celebrations started in January of this year and are being spread over a period of ten months—almost a floral year. The programme is an extensive one and it still embraces exhibitions and displays of flowers, paintings and, as well, a Spring and Wild Flower Show on 19 to 21 September, the largest display of flowers ever held in this country. There is much more to come, including a youth week and what will be the most important feature, the visit in September and October to our country of some forty-eight distinguished foreign botanists and scientists from twenty-one different countries.'

And what of the future, well the progress of the last fifty years augurs well for Kirstenbosch. Its story is inseparable from that of the dedicated men and women who have served it so well. You have heard some of them in this programme, but one thinks also of many others, some of them no longer with us.

Then too, the stalwarts of the staff. Harold Pearson, Jimmy Mathews the first curator, Professor Compton and all those whose long and loyal services have made Kirstenbosch what it is today. My ten years as Director of these Gardens have impressed upon me the fact that in Kirstenbosch we have an incomparable floral kingdom. It affords the visitor rich vistas of colour and beauty which are a subtle expression of the intellectual and artistic heritage of our nation.

As well as that, Kirstenbosch is an open-air laboratory second to none, in scientific interest and for its invaluable contribution to Botany in South Africa.

TE KOOP

Woonhuis: Dubbelverdieping met Strooidak. 3 Ruim slaapkamers, Kombuis Eetkamer, Spens, Badkamer en fotografiese donkerkamer.

Gastekamer: Rondawel met strooidak.

Gronde: Ongeveer 50,000 vk. vt. met leiwater. Opgaardammetjie. Visdammetjie. Struike en unieke versameling inheemse plante. 150 Appelkoosbome.

Buitegeboue: Motorhuis, Bediendekamer en buite-spens.

Addisioneel: Kwekerslisensie en Permit vir verkoop en uitvoer van inheemse plante. Ten volle toegeruste donkerkamer vir fotografiese werk.

Doen aansoek by H. J. Watson, Posbus 87, Telefoon 115, Tulbagh.

THE BOTANICAL SOCIETY OF SOUTH AFRICA

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER 1963

The Council of the Botanical Society of South Africa has pleasure in presenting its fiftieth annual report for the year ending December 1963.

MEETINGS OF THE COUNCIL

Five meetings of the Council were held during the year, the extra meeting being a special meeting called for early August because of the tragic death of the Secretary/Treasurer, Mrs. Wyn Hall.

MEMBERSHIP

New membership during the year totalled 876 comprising: 4 Patrons, 22 Corporate, 34 Life, 91 Family, 568 Ordinary and 14 Associate members. Of the 34 Life Members, 21 were transfers from other forms of membership. Through death, resignations and removal of names of members who had not paid their subscriptions for the last two years we lost 104 members. To date, the membership has reached 4,579, a net gain for our Jubilee year of 772 new members, whom we welcome.

The increase in membership, which is a record, reflects the drive and efforts of the Jubilee Fund-raising Committee and others who realized that the Society has a permanent and valued contribution to make to the Gardens. It is not possible to mention the names of those who helped with enlarging our membership, but we are grateful for their efforts and hope that they will be continued by the old members and the new ones whom the Council welcomes most heartily.

FINANCIAL

Subscriptions received R9,863.62, which includes Patrons R600.00, Corporate R543.73, Life Members R2,228.66, other sources of income R1,048.94, Expenditure was R2,038.11, leaving a surplus for the year amounting to R8,874.45, which was transferred to the Trustees of the National Botanic Gardens in respect of 1963. This is the largest amount ever paid over by the Society.

The Society acknowledges most gratefully the kindness of Miss S. Olivier (Treasurer of the Gardens) for her help with the Books.

JUBILEE DONATION

During 1962 and 1963, an amount of R6,026.60 was donated by members of the Society to the Special Kirstenbosch Jubilee Fund. This magnificent gesture amounts to approximately 9 per cent of the total Jubilee Fund-raising effort. In the 1964 *Journal of the Botanical Society*, acknowledgements will be made of all members who sent their donations through the Society. It was not possible to include this list in the 1963 Journal. Once again, the Council thanks the members for their very valuable contribution to the Kirstenbosch Jubilee Fund.

DONATIONS IN MEMORY OF WYN HALL

Up to the end of December 1963, R243.50 has been received. It has not yet been decided how the fund will be used, but the Council hopes to make a decision in the near future.

JUBILEE

Until her death on 28 July 1963, Mrs. Wyn Hall, as usual, worked like a Trojan to make the Jubilee Year a real success, both for the Gardens and the Botanical Society. It was her idea which inaugurated the successful first exhibition in January 1963 with the theme 'Kirstenbosch Past and Present'. With her usual ability she received co-operation from young and old and our Jubilee year was assured of success from the start. A tribute was paid to Mrs. Hall in our Jubilee issue by Professor Rycroft.

On going through her desk calendar of engagements, it can be seen how morning, afternoon and evening her time was occupied with working for the publicity and welfare of her Society. It was her efforts which led to so many of the art galleries, libraries and museums in our Republic having exhibitions which focused attention on our flora and the urgent need for its preservation. The Council is most appreciative of the amount of time and labour which was given so willingly by so many who spread information about our Society and the work it does.

From the time of Mrs. Hall's death until the end of December, Miss M. E. Johns, with the part-time help of Mrs. P. Campbell, did what she could to keep the Society functioning until a new Secretary/Treasurer was appointed.

We extend our thanks to Mrs. R. MacKenzie for her regular help during 1963.

MEETINGS OF THE SOCIETY

12 January—Special Gathering for visiting members, at Kirstenbosch. This was a pleasant, chatty afternoon, when new and old members met informally.

2 February—Braaivleis at Kirstenbosch. This went with a swing and it will long be remembered how energetically Mrs. Hall introduced old and young to the Gay Gordons and other popular dances.

23 February—Visit to a Member's Garden—a most enjoyable afternoon.

19–20 March—International Flower Show, City Hall, which was an outstanding success.

26 March—Annual General Meeting at the Lecture Hall, Kirstenbosch, followed by 'Searching for the Lost and the Rare' by Stuart Macpherson.

19–21 September—Spring and Wild Flower Show, Goodwood Show Grounds.

24 September—Karoo Garden, Worcester—Annual Visit with the overseas botanists. Here members had a chance of meeting many of the overseas botanists who were the guests of the Jubilee Committee.

28 September—Annual Gathering of members, The Lawn, Kirstenbosch. Mrs. A. J. M. Middlemost gave valuable time and help to ensure that all members not only enjoyed the beauty of the Gardens, but that the 'inner man' was adequately catered for.

JOURNAL OF THE BOTANICAL SOCIETY, PART XLIX, 1963

Edited by Professor H. B. Rycroft, this publication received a new look and size for the 1913–1963 Kirstenbosch Jubilee issue and had in colour the Jubilee emblem *Protea repens* on the cover. We record our appreciation of the help of Mrs. C. E. Hugo (Librarian of the Gardens) for her valued assistance.

OFFICE BEARERS

The following were elected at the Annual General Meeting of members of the Society held on 26 March 1963.

Re-elected:

President—Mr. D. R. D'Ewes.

Vice-presidents—Professor R. H. Compton, Mr. C. J. Sibbett, Professor H. B. Rycroft.

COUNCIL

Dr. G. J. Broekhuysen
Mr. M. Clough
Mr. H. A. van Hoogstraten
Mr. L. J. Hill
Dr. W. P. U. Jackson
Miss M. E. Johns
Dr. G. J. Lewis
Mr. C. L. Lighton
Mr. S. Macpherson
Mr. W. J. Middelmann
Miss E. L. Stephens
Captain M. F. Stern
Mrs. M. M. Vogts

Newly elected:

Mr. J. R. Winearls, replacing Mr. A. J. A. Simpson, resigned.

Dr. E. A. C. L. E. Schelpe, replacing Dr. J. S. Griffiths, overseas.

THANKS

The Council of the Botanical Society of South Africa wishes to thank most sincerely the Jubilee Director, Col. I. P. S. Terblanche, and the many Jubilee Committee members who, while working for the Gardens, included the Society and its members in many of the activities and functions, which helped so wonderfully to make the people of our Republic and friends in other countries aware of the aims and objects of the National Botanic Gardens, Kirstenbosch.

To the Press, the S.A.B.C. and the Cape Provincial Administration and so many others, the Council wishes to extend grateful thanks for all the co-operation it received during its Golden Jubilee year 1963.

Milton Clough, *Chairman.*
(Miss) M. E. Johns, *Member of Council.*
(Acting Secretary/Treasurer.)

WILD FLOWERS PROTECTION SECTION COMMITTEE

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER 1963

FINANCIAL

Income for the year: Balance as at 1/1/63: R2,849.69, Subscriptions R1,047.69, Interest received during 1963 R60.87, Total R3,957.80. Expenditure R722.05. Total amount in investments (with accrued interest) R1,413.14, Cash in Bank at call R1,187.30, Cash on hand R0.20, Total value of equipment: R1,128.40, less Aggregate Depreciation R568.82.

WILD FLOWER SHOWS

International Flower Show 19–20 *March*

Mrs. W. Hall arranged for helpers to be on duty for the two days, to advise any prospective members who wished to join the Society. Sponsored by the Cape Horticultural Society, this show was a great success.

Spring and Wild Flower Show, Goodwood Show Grounds

Up to the time of her death, Mrs. Hall attended all the preliminary meetings held by the Jubilee Show Committee. Miss M. E. Johns represented the W.F.P. Committee and helped at the show by being in daily attendance and arranging for a rota of helpers to be on duty every day. These helpers, too numerous to mention, were on for two-hourly shifts or longer, and to them all the Wild Flowers Protection Committee extends its grateful thanks, as well as to those members whose home-grown exhibits were so very important in bringing to the notice of the general public that many of our wild flowers can be cultivated in our own gardens.

ALIEN VEGETATION ON THE SILVERMINE PLATEAU

His worship, the Mayor of Cape Town, assured the committee in a letter of reply to one where concern was expressed about the planting of pines on the Silvermine Plateau, that: 'Only a few isolated trees will remain to provide shelter for visitors. This is in accordance with the Council's decision taken in November 1961, and which could only be brought into effect when the trees concerned were large enough to be sold as Christmas trees. The Plateau will, after January, revert almost completely to its natural state.'

MEETINGS OF THE COMMITTEE

These were infrequent owing to the calls made upon the time of the Chairman, Professor Rycroft and the Secretary/Treasurer, for work in connexion with the Kirstenbosch Jubilee exhibitions, etc., but advice and recommendations about conservation and protection of our Flora were given to the general public and members throughout the year.

MEMBERS OF THE WILD FLOWERS PROTECTION COMMITTEE

The following were re-elected at the first meeting of the Council of the Botanical Society of South Africa, held on 7 May 1963:

Prof. H. B. Rycroft
Miss M. E. Johns
Mrs. M. M. Vogts
Mr. S. Macpherson
Mr. H. L. Silberbauer
Mr. J. R. Winearls

THANKS

Our thanks are extended to all who have helped this year, including the Press for their co-operation.

H. B. Rycroft, *Chairman.*
(Miss) M. E. Johns, *Member of Council.*
(*Acting Secretary/Treasurer.*)

BACK NUMBERS

The following Parts are obtainable at the prices shown. The principal contents are mentioned below: each part also contains full-size Plates, News and Notes, Reports, etc.

Price to Members of the Botanical Society 25c; to non-Members 35c

Part	XXI.	Aloe Marlothii: Some Forms and Hybrids.	G. W. Reynolds.
		Lawn Grasses on Trial at Kirstenbosch.	J. W. Mathews.
		How to form a Garden Library.	L. B. Creasey.
		South African Conifers for Garden Use.	J. W. Mathews.
		From New York to Kirstenbosch and Back.	S. V. Coombs.
,,	XXII.	South African Succulents at Kew.	Sir Arthur Hill.
		An Old Cape Frontier.	E. A. Walker.
		Our Wild Flowers and Their Protection.	F. Guthrie.
,,	XXVIII.	The Herbarium of the National Botanic Gardens, Kirstenbosch.	R. H. Compton.
		Nature Study in the Forests at Kirstenbosch.	M. E. Johns.
,,	XXXI.	Cape Annuals for the Garden.	F. W. Thorns.
		A Plea for South African Trees.	D. R. D'Ewes.
,,	XLIV.	Birds of the National Botanic Gardens of South Africa.	G. J. Broekhuysen.
		Gasteria—A Problem Genus of South African Succulent Plants.	E. A. C. L. E. Schelpe.
,,	XLIV.	South African Epiphytic Orchids: I.	E. A. C. L. E. Schelpe.
,,	XLVIII.	South African Epiphytic Orchids: II.	E. A. C. L. E. Schelpe.

INCOME AND EXPENDITURE ACCOUNT FOR THE TWELVE MONTHS ENDED 31 DECEMBER 1963

	R		R	R
General Administration Expenses	433.42	*Subscriptions*		9,863.62
Audit Fees 1963	73.50	Family Members	1,774.73	
Honorarium to Secretary-Treasurer	585.11	Ordinary Members	6,605.00	
Bank Charges	77.68	Associate Members	940.16	
Stationery and Printing	829.42	Corporate Members	543.73	
Depreciation—Addressograph	30.88			
Depreciation—Adding Machine	8.10	Donations		534.80
Surplus for the year	8,874.45	Interest on Investments		499.79
		Amount recovered re Journal No. 48		14.35
	R10,912.56			R10,912.56

WILD FLOWERS OF THE CAPE OF GOOD HOPE

BOOK FUND TRUST ACCOUNT

	R		R
Stock of Books on hand 1/1/1963	6,517.01	Sundry Income	743.00
Audit Fees	21.00	Stock of Books on hand 31/12/1963	5,946.16
Bank charges	2.00		
Surplus	149.15		
	R6,689.16		R6,689.16

BALANCE SHEET AS AT 31 DECEMBER 1963

	R	R		R	R
Accumulated Funds:		6,133.91	**Stock of Books on Hand**—as per Treasurer's valuation		5,946.16
Balance 1/1/1963	6,707.76		**Post Office Savings Bank:**		
Add: Surplus as above	149.15		Savings Account No. S 5660 at 3½% p.a.		151.07
	6,856.91		**Cash:**		36.68
Less: Transfer to National Botanical Gardens	723.00		Current Account at Standard Bank of S.A. Ltd.	54.38	
			On hand	3.30	
				57.68	
			Less: Liabilities	21.00	
		R6,133.91			R6,133.91

Certified Correct.
R. M. JOUBERT & CO.
Chartered Accountants (S.A.) *Auditors*

CAPE TOWN
10 *March* 1964

AUDITORS' REPORT

We have to report that we have examined the attached Balance Sheet as at 31/12/1963 with the books and vouchers of the Society, and have obtained all the information and explanations we have required. We are satisfied that the securities are in existence and that the Society had kept proper books and accounts.

We are of opinion that such Balance Sheet is properly drawn up so as to exhibit a true and fair view of the state of the Society's affairs at the date thereof, according to the best of our knowledge and the explanations given to us and as shown by the books of the Society.

R. M. JOUBERT & CO.
Chartered Accountants (S.A.) *Auditors*

CAPE TOWN
25 *February* 1964

THE BOTANICAL SOCIETY

BALANCE SHEET AS AT

		R	R
Life Membership Fund			11,740.44
Balance 1/1/1963		8,861.85	
Add: Amount received during 1963		2,878.59	
Reserve Fund			729.03
Mrs. W. Hall Memorial Fund			243.50
Subscriptions Paid in Advance			845.80
National Botanical Gardens			8,874.45
Surplus for the year.			
Jubilee Donations			292.24
Balance 1/1/1963		428.67	
Donations received		2,234.32	
		2,662.99	
Less: Tickets	R115.00		
General Funds	1,000.00		
Research Scholarship	540.00		
Printing	63.25		
Salaries	317.76		
Sundries	57.48		
Wild Flower Show Expenses	277.26		
		2,370.75	
			22,725.46
Wild Flower Protection Section			3,235.75
Balance as at 1/1/1963		2,849.69	
Subscriptions—ordinary—received during 1963		R1,047.24	
Interest received during 1963		60.87	
		3,957.80	
Less: 5% of 1963 Subscriptions credited to General Administration expenses	104.72		
Salaries	70.00		
Stationery, postages, travelling expenses, bank charges, insurances etc.	52.61		
Grant re National Parks	432.54		
Depreciation of equipment at 10% p.a.	62.18		
		722.05	
			R25,961.21

Referred to in our Report of even date.
CAPE TOWN
10 March 1964

F SOUTH AFRICA

1 DECEMBER 1963

		R	R
Investments:			
Cape of Good Hope Savings Bank			2,426.99
Savings Account No. 52773 at 4% p.a.			
Post Office Savings Bank			
Savings Account No. 5803 at 3½% p.a.			223.41
United Building Society			7,449.25
Fixed Deposit C 35721 with accrued interest at 5% p.a.		1,847.12	
Fixed Deposit C 37523 with accrued interest at 4% p.a.		755.53	
Savings Account No. 536 at 2% p.a.		4,846.60	
S.A. Permanent Building Society			4,250.93
Fixed Deposit No. 9836 with accrued interest at 4½% p.a.		1,496.97	
Fixed Deposit No. 4879 with accrued interest at 5% p.a.		2,753.96	
Trust Bank of Africa Ltd.			
Savings Account No. 24112 at 4% p.a.			6,509.95
Cash			1,412.31
Current Account at Standard Bank of S.A. Ltd.		1,665.62	
On hand		44	
		1,666.06	
Less: Amount due to Wild Flower Protection Section	R180.25		
Liabilities	73.50		
		253.75	
Amount Due From Wild Flower Protection Section			104.72
Addressograph			275.00
Balance 1/1/1963		243.00	
Add: Additions at cost		62.88	
		305.88	
Less: Depreciation written off		30.88	
Adding Machine			72.90
Balance 1/1/1963		81.00	
Less: Depreciation written off		8.10	
			22,725.46
Wild Flower Protection Section			3,235.75
Investments			
S.A. Permanent Building Society:			
Fixed Deposit No. 7938 with accrued interest at 4% p.a.		921.20	
Fixed Deposit No. 8553 with accrued interest at 4½% p.a.		491.94	
Cash:			
Current Account at Standard Bank of S.A. Ltd.		1,187.30	
On hand		20	
Amount due from General Account		180.25	
Equipment:			
Film Projector, Screen etc.—cost	R802.40		
Duplicator—cost	326.00		
	1,128.40		
Less: Aggregate Depreciation	568.82		
		559.58	
		3,340.47	
Less: Amount due to General Account		104.72	
			R25,961.21

R. M. JOUBERT & CO.
Chartered Accountants (S.A.)
Auditors

PUBLICATIONS ON SALE AT KIRSTENBOSCH

The following may be obtained by application, enclosing payment, to The Hon. Secretary, Botanical Society, Kirstenbosch, Newlands, C.P., South Africa. Prices include postage.

'The Genus Oxalis in South Africa'; T. M. Salter. (355 pages, 10 plates, 73 text-figures)	R3.50
'The Genus Muraltia'; M. R. Levyns	R3.50
'The Species of Oxalis occurring in the Cape Peninsula and how to distinguish them'; T. M. Salter	7½c
'General Hints on Raising Indigenous Plants from Seed'; H. F. Werner	7½c
'South African Proteaceae and their Cultivation'; H. F. Werner	7½c
'Progress in the Study of the Silver Tree Disease'; D. Olivier	7½c
'Pelargonium—A South African Contribution to World Gardens'; F. M. Leighton	7½c
'The Propagation of Succulents from Seeds and Cuttings'; H. Hall	7½c
'Growing Proteaceae in the Summer-rainfall Area'; M. M. Vogts	7½c
'Seaweeds'; W. E. Isaac	7½c
'Some South African Biennials and near-Biennials and their Cultivation'; H. F. Werner	7½c
'Some South African Herbaceous Perennials and their Cultivation'; H. F. Werner	7½c
'Plant Names and their Origin'; M. R. Levyns	7½c
'Propagation and Cultivation of Proteas and Heaths'; H. F. Werner	7½c
'Suid-Afrikaanse Proteaceae en hul Teelt'; H. F. Werner	7½c
'Plants of Land and Sea'; W. E. Isaac	7½c
'Growing Cape Bulbs in the Summer Rainfall Area'; Sima Eliovson	7½c
'Algemene Wenke oor die Kweek van Inheemse Plante van Saad'; H. F. Werner	7½c
'Notes on some rare Stapelias from Namaqualand'; H. Hall	7½c
'Birds of the National Botanic Gardens of South Africa'	10c
'Gasteria—A Problem Genus of South African Succulent Plants'	10c
'South African Epiphytic Orchids'; E. A. C. L. E. Schelpe	10c
Annual Reports of the National Botanic Gardens, 1913–64, each year	2½c
Reprints available of articles published in the 'Journal of South African Botany', on inquiry, each	7½c
'The Journal of South African Botany'; Vols. I–XXVII 1935–61, each volume in four quarterly parts; per volume R3, per part R1.05. (To members of the Botanical Society R2.50 and 85c respectively.) Back volumes at price of publication.	
'Some Cultural Notes on Disa Uniflora'; G. M. L. Feinauer	7½c

SPECIAL RATE TO MEMBERS RESIDENT OUTSIDE THE REPUBLIC OF SOUTH AFRICA

Members are kindly reminded that all subscriptions must be remitted in the equivalent South African currency, i.e. rand/cents. Please check with your bank or Post Office before remitting. The following is given as a guide:

Corporate Membership	Rand	10.00	(£5.0.0)
Family	,,	5.00	(£2.10.0)
Ordinary	,,	3.00	(£1.10.0)

THE BOTANICAL SOCIETY OF SOUTH AFRICA

OBJECTS:

1. The promotion of the interests of the National Botanic Gardens of South Africa established under the Trustees of the National Botanic Gardens of South Africa.
2. The preservation of the native flora of South Africa. The Society therefore endeavours:
    (*a*) To encourage the people of South Africa and other countries in the progress and development of the National Botanic Gardens of South Africa at Kirstenbosch, and any other Garden that may be established by the Trustees of the said National Botanic Gardens of South Africa.
    (*b*) To augment the Government and other grants towards developing, improving and maintaining the National Botanic Gardens of South Africa at Kirstenbosch and any Garden referred to in the preceding subsection.
    (*c*) To organize shows at which may be displayed the results of botanical experiments of cultural skill in improving the different varieties of South African flora.
    (*d*) To enlighten and instruct on botanical subjects by means of meetings, lectures and conferences and by the distribution of literature.
    (*e*) To promote the preservation of the native flora of South Africa, to encourage public interest in it, and to co-operate with the Public Authorities and others in the attainment of this object.

FOUNDED 10 JUNE 1913

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Associate Members enjoy all the privileges of Membership, except that they do not vote at any of the Society's Meetings and are not entitled to share in the free distribution of seed.

Honorary Members may be elected at a Meeting of the Society on the nomination of the Council.

All members except associate members have the privilege of sharing in the free distribution of surplus seeds from Kirstenbosch and Worcester, on application to the Director of the Gardens. The Journal of the Botanical Society, published annually, is sent free to every Member. The Journal of South African Botany can be purchased by Members at reduced rates.

Members who wish to support the Wild Flower Protection Section of the Society may give an annual subscription of 50*c* per annum in addition to the subscription for the class to which they belong. Those wishing to become Members of the Society are invited to communicate with the Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, C.P.

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PART 51, 1965

JOURNAL OF THE BOTANICAL SOCIETY OF SOUTH AFRICA

JAARBLAD VAN DIE BOTANIESE VERENIGING VAN SUID-AFRIKA

DEEL 51, 1965

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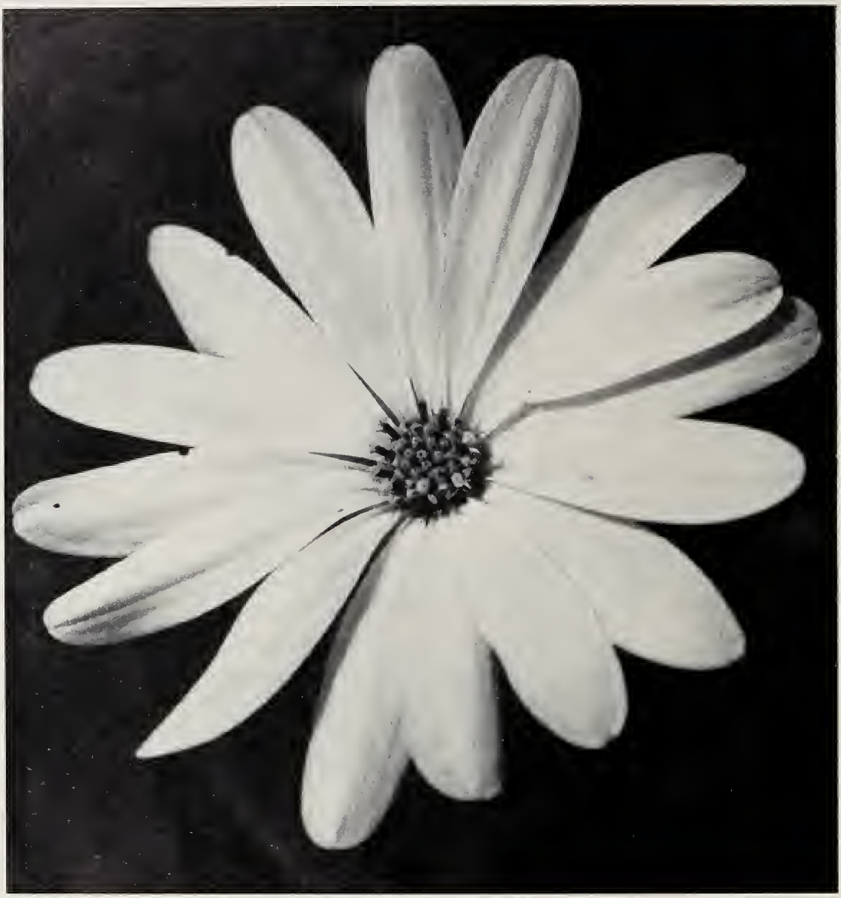

PLATE 1. *The open and honest Cape face of Osteospermum ecklonis.*
Photo: Dudley R. D'Ewes
'Cape Flowers Far from Home'

JOURNAL of the Botanical Society of South Africa
JAARBLAD van die Botaniese Vereniging van Suid-Afrika

PART 51
1965

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Direkteur van die Nasionale Botaniese Tuine van Suid-Afrika te Kirstenbosch, Kaapstad, Harold Pearson-professor in Plantkunde aan die Universiteit van Kaapstad.

DEEL 51
1965

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BOTANICAL SOCIETY OF SOUTH AFRICA
BOTANIESE VERENIGING VAN SUID-AFRIKA:

Annual Report Botanical Society 44
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NUUSBROKKIES

NEWS AND NOTES

DIE MOONTLIKHEID VAN 'N SUID-AFRIKAANSE TUIN IN ISRAEL

Volgens 'n berig deur Peggy Butler in *The Cape Argus* van 27 Februarie 1965, sal 'n hoekie in Jerusalem vir ewig Suid-Afrika wees indien prof. Michael Zohary (hoof van die Departement Plantkunde van die Hebreeuse Universiteit) sy sin kry. Hy is tans besig aan planne vir 'n vooruitstrewende botaniese tuin by die universiteit wat, wanneer dit na 'n paar jaar voltooi is, die grootste in Israel en enig in sy soort in die Midde-Ooste sal wees.

Dit sal van alle bestaande tuine verskil in konstruksie—in Europa en die Verenigde State word wetenskaplike tuine op die sistematiese metode beplant, naamlik elke soort word volgens familiegroepe gerangskik. By die Hebreeuse Universiteit sal plantgeografie in aanmerking geneem word en bome en struike van alle soorte sal as 'n geheel saam gegroepeer word, sodat elke groep 'n gebied van die aardbol verteenwoordig.

Die totstandkoming van hierdie tuin is een van prof. Zohary se lewenslange ideale. 'n Ander ideaal is om Suid-Afrika te besoek. In besonder wil hy Kirstenbosch besoek om proteas en silwerbome in hul natuurlike staat te besigtig. ,,South Africa is one of the richest countries in the world in plants and trees" sê hy.

Prof. Zohary se geesdrif is verder aangewakker deur 'n besoek van prof. H. B. Rycroft, Direkteur van Kirstenbosch, 'n paar maande gelede aan Israel tydens 'n studiereis wat Rusland ingesluit het. Die twee plantkundiges het mekaar in Edinburg ontmoet tydens 'n botaniese kongres en prof. Zohary het sy kollega uitgenooi na Jerusalem om te sien wat reeds by die Hebreeuse Universiteit uitgevoer is.

* * *

LEWENSLEDE

Dit is aangenaam om te berig dat etlike lede hierdie jaar vir Lewenslidmaatskap gekwalifiseer het nadat hulle vir meer as 20 jaar aan ons Vereniging behoort het.

GELUKWENSINGS

Ons wens graag mnre. W. & C. Gowie, van Grahamstad, lede van ons Vereniging, hartlik geluk met die viering van die 100-jarige bestaan van hul besigheid.

Mnr. Milton Clough, Voorsitter van die Raad van die Botaniese Vereniging en mev. Clough het onlangs hul goue bruilof herdenk. Ons opregte gelukwensing aan hulle met hierdie groot onderskeiding.

ISRAEL MAY HAVE A SOUTH AFRICAN GARDEN

'There will be a corner of Jerusalem that is forever South Africa if Prof. Michael Zohary (head of the Botany Department of the Hebrew University) has his way. He is at present engaged on plans for an ambitious botanical garden at the university which, when completed in a few years' time, will be the largest in Israel and the only one of its kind in the Middle East.

'It will differ from all known gardens elsewhere by its composition—in Europe and the United States scientific gardens are planted by the "systematic" method, that is, specimens are arranged according to their family groups. At the Hebrew University plant geography will be the theme and trees and shrubs of all kinds will be grouped together as a whole, each group to represent a region of the globe.

'The establishment of this garden is one of the lifelong ambitions of Professor Zohary. Another is to visit South Africa, especially Kirstenbosch and to see proteas and silver trees in their natural setting. "South Africa is one of the richest countries in the world in plants and trees", he says.

'Professor Zohary's enthusiasm was further stimulated a few months ago by the visit to Israel of Prof. H. B. Rycroft, Director of Kirstenbosch, while on a study tour that included Russia. The two men met in Edinburgh, at a botanical congress and Professor Zohary invited his colleague to come to Jerusalem to see what had been achieved at the Hebrew University.'

Peggy Butler in the *Cape Argus*—
27 February 1965.

* * *

LIFE MEMBERS

We are happy to record that several members have qualified this year for Life Membership after subscribing to our Society for a period of twenty years.

CONGRATULATIONS

We offer our cordial congratulations to the firm W. & C. Gowie, Grahamstown, members of our Society on the celebration of their 100th Anniversary in business.

Mr. Milton Clough (Chairman of the Botanical Society Council) and Mrs. Clough recently celebrated their Golden Wedding Anniversary. Our hearty congratulations are extended to them on this great occasion.

Dit is aangenaam om in die Desember-uitgawe van *New Zealand Gardener* te lees van Peta Mortimer wat die Nieu-Seeland-trofee verower het vir die beste rangskikking van veldblomme deur 'n kind tydens die 1964 Veldblommeskou van die Botaniese Vereniging van Suid-Afrika. Hierdie artikel, deur Margaret Lawder, was getitel ,, A Child Shall Lead Them".

Paslik skryf mev. Lawder onder meer: ,,Dit is op Peta en haar tydgenote op wie die mantel van verantwoordelikheid vir ons pragtige blomme oor 'n paar jaar sal val en Suid-Afrikaanse liefhebbers van blomme is dankbaar teenoor ons vriendelike besoekers uit Nieu-Seeland wat op so 'n mooi wyse hul genot in ons veldblomme toon en ons kinders aanmoedig om dit te bewaar.

,,Suid-Afrikaanse stede brei fantasties uit en woonstelblokke verrys op plekke waar elke huis tot onlangs sy eie tuintjie gehad het. Ons leiers is daarvan bewus dat die jong burgers van die toekoms nou in hierdie groot nuwe besige stede opgroei en dat hulle spesiale geleenthede gebied moet word om die natuur te leer ken soos hul ouers daarmee opgegroei het op afgeleë plase en dorpe.

,,Dit is goed om te dink aan die werk wat gedoen word om ons kinders te onderrig in die natuur maar ons weet dat die eintlike verantwoordelikheid vir die inspirasie van toekomstige natuurbewaarders in ons eie en alle ander lande uit die kind se eie huis moet kom.

,,Klein Peta en seuns en dogters soos sy is dan ook baie bevoorreg om hulle jeugjare so na aan die natuur deur te bring. Die Natuur—die groot leermeester wat soveel vrede en geluk bied aan almal wat sy lesse en werk bestudeer."

* * *

Navrae om lidmaatskap van Suid-Afrikaanse veldblomgeesdriftiges uit die buiteland het heelparty interessante brokkies opgelewer—soos blyk uit die volgende uittreksel uit 'n brief van Warwickshire, Engeland:

,,Ons weerstoestande hier kan nouliks as wonderlik beskryf word—nie eers elke ander dag sonskyn nie—toe ek dus bosse blou Agapanthus (na 'n groot gesoek by plaaslike kwekerye) in my tuin geplant het, was die kleur teen die grys lug eenvoudig wonderlik. Die plante is tans vyf jaar oud en voorsien my van blomme vir die huis oor 'n lang tydperk.

,,Nog 'n triomf is Dimorphothecas, so 'n eenvoudige plant maar so pragtig en dit is, tot my spyt, al wat ek van Afrika besit. Ek verneem egter dat daar 'n hele paar plante is wat gelukkig kan wees in Engeland. . . . "

* * *

Mev. Elizabeth Harris skryf uit Sussex:

,,Ek het pas 'n artikel deur Margaret Lawder gelees in *Amateur Gardening* oor ,Good South African Plants', wat ou herinneringe na vore gebring het.

,,In 1920 het my moeder my na Suid-Afrika geneem om by haar vader, majoor H. C. Marshall, op sy plaas, Somerset-landgoed naby Gwelo te gaan woon. Ek het

We noted with pleasure that mention was made in the December *New Zealand Gardener* of Peta Mortimer, who won the New Zealand Trophy for the best arrangement of wild flowers made by a child in the Botanical Society's 1964 Wild Flower Show. This article, written by Margaret Lawder, appeared under 'A Child shall Lead Them'.

Mrs. Lawder aptly wrote: 'It is on Peta and her contemporaries that in a few years, time the cloak of responsibility for our beautiful flowers will fall and South African flower lovers are grateful to our good New Zealand visitors who in such a charming way expressed their pleasure in our flowers and gave encouragement to our children to care for them.

'South African cities are growing at fantastic speed and blocks of flats are being built in places where, until recently, every little home had its garden. Our leaders are aware that the young citizens of tomorrow growing up now in these great new bustling cities will need special opportunities for learning the nature lessons which their parents absorbed from babyhood on the isolated farms and remote dorps of yesterday.

'It is good to think of the work that is being done to educate our children in the ways of nature but we know that ultimately the responsibility for inspiring the future nature-guardians of our own and all other countries lies in the children's homes—up and down the world.

'Fortunate indeed is little Peta and the boys and girls who, like her, are living their childhood so close to the work of nature—the great teacher who offers so very much peace and happiness to those who study her lessons and her works.'

Membership inquiries from South African wild flower enthusiasts overseas, have included some interesting accounts, such as the following received from Warwickshire, England:

'Our weather here is hardly the type we would call spectacular from the point of brilliant sunshine every other day even, so when I introduced into my garden some clumps of blue Agapanthus (after much searching in local nurseries) the colour against grey skies was absolutely wondrous. The plants are now five years old and supply me with blooms for the house over a long period.

'Another triumph is Dimorphothecas, such a simple formation, but so lovely, and that I'm afraid is all I have from Africa. I understand there are quite a few plants which can be happy in England.'

* * *

Mrs. Elizabeth Harris of Sussex writes:

'I have just been reading in *Amateur Gardening* an article by Margaret Lawder on "Good South African Plants", which has brought back memories with a rush.

'In 1920, I was taken to South Africa by my mother to live with her father, Major H. C. Marshall on his farm, Somerset Estate near Gwelo and spent the first die eerste tien tot elf jaar van my lewe daar deurgebring. Dit was my oupa wat my geleer het om die natuur lief te hê soos hy en my moeder dit liefgehad het en dit was hy wat my aan die Suid-Afrikaanse blomme bekend gestel het waarna ek nog steeds verlang.

,,Nadat ons na Engeland teruggekeer het, het my oupa aan my 'n stel sigaretkaartjies gestuur, ,South African Wild Flowers', dit was 'n reeks van 25 en hierby ingesluit was die ,Marsh Rose'-protea (beskermd), met ovaalvormige blaar, en andere. Ek het probeer om hulle te bewaar maar het slegs sewe oor. Ek is seker dat een die Gloriosa was. Hierdie blom agtervolg my."

Beskrywings soos hierdie bewys dat Suid-Afrikaanse veldblomme 'n spesiale en blywende plek in baie harte verower het.

* * *

COMPTON-HERBARIUM GEDENKDAG

Op 1 April 1965 bestaan die Compton-herbarium 25 jaar as 'n wetenskaplike inrigting. Op 1 April 1940 is die kernversameling, bestaande uit 18 kabinette, uit 'n klein laboratorium langsaan die Direkteur se kantoor verskuif na die nuwe gebou wat destyds helfte kleiner was as tans. Hierdie gebou is in 1939 deur die Bolus-herbarium ontruim toe daardie versameling na 'n nuwe gebou by die Universiteit van Kaapstad oorgeplaas is.

Die vier personeellede wat die Compton-herbarium gestig het was:

Prof. Compton, die Direkteur, na wie dit later vernoem is, en wat sedert sy aftrede van Kirstenbosch in 1953, die steeds groeiende Herbarium van die Swaziland-regering in Mbabane gestig het.

Die eerste botaniese assistente was mej. W. F. Barker wat tans die kuratrise is. Mej. P. Bond (mev. A. Fairall) was die tweede assistente en sy is tans in bevel van die herbarium van inheemse flora wat onlangs in King's Park, Perth, Wes-Australië gestig is.

Dan was daar ook die tegniese assistente, mej. I. Arbuthnot, wat na haar aftreding van 'n soortgelyke pos aan die Bolus-herbarium voor en tydens hierdie herbarium in die Tuine gehuisves was, nog 15 jaar van getroue en toegewyde diens aan Kirstenbosch gelewer het. Sy het op 85-jarige leeftyd afgetree nadat Kirstenbosch 'n Staatsondersteunde inrigting geword het en is in Junie 1963 in die rype ouderdom van 93 jaar oorlede in haar huis in Paradiseweg, wat sy ,,Well Content" genoem het.

* * *

GENUS AGAPANTHUS

Die *Journal of South African Botany*, onder redaksie van prof. H. B. Rycroft, en wat deur die Trustees van die Nasionale Botaniese Tuine van Suid-Afrika gepubliseer word, het ook vanjaar, benewens Vol. 31, wat in vier dele elke kwartaal verskyn, Aanvullende Vol. VI. gepubliseer. Hierdie publikasie bevat navorsing deur mev. F. M. Isaac (mej. Frances Leighton) oor die genus Agapanthus. Dit is 'n omvattende

10/11 years of my life with him. It was my grandfather who taught me to love all nature as he and mother did and it was he who introduced me to South African flowers, which have haunted me ever since.

'After we had to come Home, my grandfather sent me a set of cigarette cards "South African Wild Flowers", a series of 25 including "Marsh Rose" (protected), Oval leaf Protea and others, which I tried to keep but only 7 are left. Surely one was the Gloriosa? This flower haunts me'.

Descriptions such as these indicate that South African wild flowers have found a special and permanent place in the hearts of many.

* * *

COMPTON HERBARIUM ANNIVERSARY

On 1 April 1965 the Compton Herbarium completes its 25th year as a scientific institution. On that date in 1940 the nucleus collection consisting of eighteen cabinets was moved from the small laboratory attached to the Director's Office, where it had begun its existence, into the building then half its present size, which had been vacated a year earlier by the Bolus Herbarium, on its removal to the new site at the University of Cape Town.

The four foundation members of the staff were, Professor Compton the Director, after whom it was later named, and who since his retirement from Kirstenbosch in 1953, has established the growing Swaziland Government Herbarium in Mbabane.

First Botanical Assistant was Miss W. F. Barker, its present Curator. Miss P. Bond (Mrs. A. Fairall) the second Assistant is now in charge of the herbarium of indigenous flora, recently established in King's Park, Perth, Western Australia.

Finally the technical assistant, Miss I. Arbuthnot, who after her retirement from a similar post in the Bolus Herbarium before and while it was located in the Gardens, gave the Kirstenbosch Herbarium fifteen years of devoted and loyal service. She retired at the age of 85, after Kirstenbosch had become a State-Aided Institution, and died in June 1963 at the venerable age of 93, at her home in Paradise Road, called 'Well Content'.

GENUS AGAPANTHUS

The *Journal of South African Botany*, edited by Professor Rycroft and published under the authority of the Trustees of the National Botanic Gardens of South Africa, is publishing in addition to the four quarterly parts of Volume 31 this year, Supplementary Volume No. IV. This publication embodies the research carried out by Mrs. F. M. Isaac (Miss Frances Leighton) on the genus Agapanthus. It is a comprestudie van welbekende Suid-Afrikaanse spesies en sal deur baie liefhebbers van hierdie blou blom verwelkom word. Die 14 kleur-illustrasies is uitstekend gedoen deur mej. W. F. Barker, Kuratrise van die Compton-herbarium, Kirstenbosch. Daar is ook 3 landkaarte en 21 lyntekeninge. Hierdie publikasie se prys is R3.00 plus posgeld.

WAARDEVOLLE BOEKE

Nege volumes van *Floricultural Cabinet*, wat tussen 1834 en 1843 gepubliseer is, is gedurende die jaar aan die biblioteek van die Nasionale Botaniese Tuine van Suid-Afrika geskenk. As 'n verslag oor die tuinboukundige aangeleenthede van daardie tyd is hierdie boeke baie interessant en kwistig geïllustreer. Elke illustrasie van 'n blom—en daar is baie—is pragtig met waterverf ingekleur deur die oorspronklike eienaar van die boeke, mnr. W. S. Tandy. Mnr. Tandy was mev. Joan Pare se grootvader en hy het vroeër jare naby Pietermaritzburg geboer. Ons is baie dank aan mev. Pare verskuldig vir hierdie geskenk.

BLAARSLEUTEL

Mev. Anne Bean, wat vyf jaar lank in die Lesingsaal, Kirstenbosch onderwys gegee het, het Kaapstad aan die einde van 1964 verlaat om by haar eggenoot in Bulawayo aan te sluit en is tans verbonde aan die Opleidingskollege aldaar. Sy het 'n Sleutel tot die Blare van Bome en Hoogstruike van die Woude van Suidwes-Kaapland en Suid-Kaapland (Kaapse Skiereiland—Stormsrivier) opgestel. Afgerolde afskrifte van hierdie Sleutel is aan verskillende persone gestuur om dit op uitstappies te gebruik en die juistheid te ondersoek voordat dit gedruk word. Dit word beoog om hierdie Sleutel as 'n brosjure te publiseer en behoort groot byval te vind by alle natuurliefhebbers.

J. W. MATHEWS-TROFEE:

Vir die eerste keer sedert die ontstaan van die J. W. Mathews-kompetisie is die trofee deur 'n Afrikaanse inskrywing uit Transvaal verower. Die wenner was Bessie Jacobsz van die Hoërskool Piet Retief. Sy het 'n uitstekende pleidooi gelewer vir die aanleg en instandhouding van 'n veldblomreservaat in haar omgewing, met noukeurige en kunstige potlood-illustrasies van sommige van die veldblomme uit daardie gebied. Ongelukkig kon ons nie haar illustrasies saam met die inskrywing plaas wat op bladsy 31 verskyn nie. Die J. Sauer van Pletzen-troospryse is toegeken aan Ann Hoehn van Rustenburg-Hoërmeisieskool en Lesley Muller van die Collegiate Hoër Meisieskool, Port Elizabeth.

Die Trustees van die Nasionale Botaniese Tuine van Suid-Afrika is van voorneme om in 1965 'n tweede trofee te skenk. Laerskoolleerlinge sal om hierdie trofee meeding en daar word vertrou dat sodoende wyer belangstelling gewek sal word.

BLOM-AFDRUKKE

Ons is dank verskuldig aan dr. Steere van New York Botaniese Tuine vir die skenking van 'n stel kleur-

hensive study of the well-known South African species and is destined to be welcomed with enthusiasm by the many lovers of the lovely blue flower. The 14 colour illustrations have been beautifully executed by Miss W. F. Barker, Curator of the Compton Herbarium at Kirstenbosch. There are also 3 maps and 21 line drawings. This Supplementary Volume will sell at R3, plus postage.

VALUABLE BOOKS

The Library of the National Botanic Gardens at Kirstenbosch is the richer by a gift of nine volumes of *Floricultural Cabinet*, which were published at various times from 1834 to 1843. These books are most interesting as a record of the horticultural activities of those days and are profusely illustrated. Each picture of a flower—and there are very many—has been beautifully tinted in water-colour by Mr. W. S. Tandy, the original owner of the books. Mr. Tandy was Mrs. Joan Pare's grandfather who farmed in Pietermaritzburg in the early days. We are indeed most grateful to Mrs. Pare for her generous gift.

LEAF KEY

Mrs. Anne Bean, who for five years was a teacher at the Lecture Hall at Kirstenbosch, left Cape Town at the end of 1964 to join her husband in Bulawayo, where she is now working at the Training College. She has compiled a Leaf Key to Trees and Woody Shrubs of the Forests of the South Western Cape and Southern Cape (Cape Peninsula—Storms River). Copies of this Key have been roneoed and distributed to various people who will use it in their rambles and 'prove' it before it goes into print. It is proposed to issue this Key as a small booklet which should be of great interest to all nature lovers.

J. W. MATHEWS TROPHY

For the first time since its inception in 1956 the J. W. Mathews Trophy Competition was won by an entry in Afrikaans from the Transvaal. The winner was Bessie Jacobsz of the High School in Piet Retief. She presented a well-reasoned essay advocating the establishment and maintenance of a Wild Flower Reserve in her area, illustrating it with artistic and accurate pencil drawings of some of the wild flowers found growing there. It is a pity we were not able to reproduce her drawings with the essay, which you will find on page 31. The runners-up, sharing the J. Sauer van Pletzen Prize, were Ann Hoehn of the Rustenburg Girls' High School, and Lesley Muller of the Collegiate Girls' High School, Port Elizabeth.

The Trustees of the National Botanic Gardens of South Africa propose to introduce in 1965 an additional trophy for competition among Primary School children, hoping in this way to stimulate interest in the competition over a wider field.

FLOWER PRINTS

We are grateful to Dr. Steere of the New York Botanical Gardens for his gift of a set of colour prints afdrukke wat oorspronklik in die publikasie *Addisonia* verskyn het. Hierdie afdrukke is 'n interessante byvoeging tot die versameling blomsketse in ons herbarium.

MEJ. PAHL IN BROOKLYN

Mej. Gisela Pahl, wat ons aan die einde van die skooljaar in 1964 verlaat het is tans assistent-instruktrise in onderwys aan die Brooklyn Botaniese Tuine, V.S.A. Ons wens haar geluk met die verowering van 'n studiebeurs wat haar in staat gestel het om hierdie pos te aanvaar maar vertrou dat ons haar weer in die toekoms op Kirstenbosch mag terug verwelkom.

SKENKING VAN WATERVERFAFDRUKKE

Mnr. Milton Clough, Voorsitter van die Raad van die Botaniese Vereniging van Suid-Afrika, het 'n stel van die afdrukke van die eerste uitgawe van oorspronklike waterverfsketse van Suid-Afrikaanse blomme deur Ethel Dixie aan die Tuine geskenk. Hierdie geskenk word met innige dank aangeneem as 'n byvoeging tot ons versameling van blomafdrukke.

MNR. N. S. PILLANS

Ons berig met innige leedwese die heengaan van die 80-jarige mnr. Neville Stuart Pillans op 23 Maart 1964. Mnr. Pillans, wat 'n welbekende plantkundige was, het die oorspronklike terrein vir Kirstenbosch voorgestel.

Hy was assistent aan die Bolus-herbarium, Universiteit van Kaapstad, waar hy in 1953 afgetree het, dog met sy navorsing in plantkunde voortgegaan het tot kort voor sy dood.

Baie artikels deur hom het in die *Journal of South African Botany* en in hierdie publikasie verskyn. Ons sal altyd aan mnr. Pillans se noue samewerking met Kirstenbosch herinner word deur twee pragtige Encepharlatos-bome wat deur hom in die Oostelike Provinsie versamel is aan die end van die vorige eeu. Hy het die bome in sy tuin in Nuweland geplânt en onlangs is die bome oorgeplant aan weerskante van die nuwe ingangpad na Kirstenbosch.

'n Kort artikel oor hom verskyn op bladsy 42.

SMUTS-GEDENKSTIPENDIUM

Mnr. Bertil Nordenstam van die Universiteit van Lund, Swede, was vir die tweede jaar die houer van hierdie stipendium en het sy werk voortgesit oor die nomenklatuur en taksonomie van Euryops, Othonna en verwante genera in die Compositae. Artikels oor sy werk het in die *Journal of South African Botany* verskyn. Hy het in Junie 1964 na Swede teruggekeer.

VERLEGGING VAN RHODESWEG

Die verlegging van Rhodesweg is vir baie jare in hierdie kolomme gemeld. Dit is aangenaam om soos volg uit die *Cape Times* van 10.6.64 aan te haal:

,,Mr. A. P. Venter, M.E.C., helped his wife to cut the ribbon across the road after officially opening the

which originally appeared in the publication *Addisonia*. These prints form an interesting addition to the collection of flower studies housed in our Herbarium.

MISS PAHL AT BROOKLYN

Miss Gisela Pahl, who was with us to the end of the school year, 1964, is at present working as an assistant instructor in the educational activities of the Brooklyn Botanic Gardens, United States of America. We congratulate her on the award of a study bursary which enabled her to take up this overseas work but hope we may look forward to welcoming her back to Kirstenbosch in the not too distant future.

GIFT OF WATER-COLOUR REPRODUCTIONS

The Chairman of the Council of the Botanical Society of South Africa, Mr. Milton Clough, has kindly presented the Gardens with a set of 1st edition plates of original water-colours of South African flowers by Ethel Dixie. This gift is much appreciated and welcomed as an addition to our collection of flower pictures.

MR. N. S. PILLANS

It is with deep regret that we record the death of Mr. Neville Stuart Pillans, the botanist who suggested the site for the Kirstenbosch Gardens. He died at the age of 80 on 23 March 1964.

He was an assistant in the Bolus Herbarium, University of Cape Town, until his retirement in 1953, and continued his botanical research work almost up to the time of his death.

He contributed many articles on the results of his research to the *Journal of South African Botany* and to this publication. The memory of Mr. Pillans's close association with Kirstenbosch will be kept alive by the two magnificent specimens of Encephalartos which, originally collected by him towards the end of the last century and planted in his garden at Newlands, have recently been transplanted to that part of the Gardens opened up by the construction of the new road.

SMUTS MEMORIAL FELLOWSHIP

Mr. Bertil Nordenstam of the University of Lund, Sweden, held the Smuts Memorial Fellowship for a second year, and continued with his work on the nomenclature and taxonomy of Euryops, Othonna and related genera in the family Compositae. Results of his work have been published in the *Journal of South African Botany*. He returned to Sweden in June 1964.

DEVIATION OF RHODES DRIVE

For many years the subject of the Rhodes Drive deviation has cropped up in the News and Notes columns of this publication. It is with great pleasure that we quote from the *Cape Times* of 10.6.64:

'Mr. A. P. Venter, M.E.C., helped his wife to cut the ribbon across the road after officially opening the

R52,000 Rhodes Avenue deviation below Kirstenbosch gates yesterday afternoon.

,,Mr. Venter said that although the deviation might be considered a minor one it was of great importance and value to Kirstenbosch.

,,He pointed out that the road had been widened and consisted of three traffic lanes. . . . The annoying traffic pile-ups that occurred at this point on the old road should be something of the past.

,,Mr. Murray, acting Chairman of the Divisional Council, told the gathering the deviation was planned to do away with the anomalous position where the public road passed through a botanic garden.

,,In paying tribute to Professor Rycroft, Mr. Murray said the professor fought for the deviation since his appointment as director of the National Botanic Gardens."

'n Aantreklike ingang sal mettertyd by die nuwe pad opgerig word.

UITSTALLING

'n Uitstalling van skilderye van blomme deur Emily Thwaites is op 24 Mei 1964 in die Lesingsaal, Kirstenbosch gehou. Hierdie skilderye is in 1963 deur mej. Inanda Lindley aan die Tuine geskenk.

BLOMKAARTE EN ALBUM

'n Internasionale koeldrankfirma, nl. die Coca-Cola-maatskappy, het tydens 'n eetmaal op 12 Maart 1964, 'n Kirstenbosch-blommeveldtog van stapel gestuur. Tydens hierdie geleentheid is 'n tjek van R1,000 aan Kirstenbosch geskenk om die veldtog te loods.

Hierdie album, *Ons Blommeparadys*, is opgestel deur prof. Rycroft en handel oor die inheemse flora van Suid-Afrika. Die album het 100 blomkaarte wat daarin geplak kan word, en dit kan verkry word by Kirstenbosch. Ons is dank verskuldig aan prof. P. G. Jordaan wat die vertaling nagesien het.

Die album en kaarte word verkoop teen 50 sent. Bestelvorms verskyn elders in hierdie publikasie.

EDWARD MUSPRATT SOLLY-BEURS

Hierdie beurs is toegeken aan mej. Mary Thompson, 'n gegradueerde van die Universiteit van die Witwatersrand. Dit is die eerste keer sedert 1952 dat hierdie beurs toegeken is. Mej. Thompson was by die Compton-herbarium werksaam en het haar in besonder bepaal by Hypoxideae, Spiloxene en Kaapse flora.

KIRSTENBOSCH-ROLPRENTE

Ter ere van die Goue Jubileum van Kirstenbosch in 1963 is die volgende rolprente gemaak: *Fairest Heritage* en *Kirstenbosch Jubilee Journey* deur B.P. Suidelike Afrika (Edms.) Bpk.; en *Dance to the Sun* deur Caltex (Afrika) Beperk. *Kirstenbosch Jubilee Journey* soos die naam aandui, handel oor die Jubileumviering en in besonder oor die botaniese reis van sowat 5,000 myl deur Suid-Afrika wat vir die buitelandse besoekers

R52,000 Rhodes Avenue deviation below the Kirstenbosch gates yesterday afternoon.

'Mr. Venter said that although the deviation might be considered a minor one it was of great importance and value to Kirstenbosch.

'He pointed out that the road had been widened and consisted of three traffic lanes. . . . "The annoying traffic pile-ups that occurred at this point on the old road should be something of the past", he added.

'Mr. Murray, acting Chairman of the Divisional Council, told the gathering the deviation was planned to do away with the anomalous position where a public road passed through a botanic garden.

'In paying tribute to Professor Rycroft Mr. Murray said the professor had fought for the deviation since his appointment as director of the National Botanic Gardens.'

An attractive entrance will be planned and built on the new road.

EXHIBITION

An exhibition of flower paintings by Emily Thwaites was held in the Lecture Hall, Kirstenbosch, on 24 May 1964. These paintings had been presented to the Gardens by Miss Inanda Lindley in 1963.

FLOWER CARDS AND ALBUM

An international soft drink firm, the Coca-Cola Company organized a Kirstenbosch Flower Campaign which was inaugurated at a dinner on 12 March 1964. An initial cheque for R1,000 was presented to Kirstenbosch to get the ball rolling.

The album, 'Our Flower Paradise', compiled by Professor Rycroft and dealing with the natural flora of South Africa, is available from the Gardens with the set of 100 flower cards for pasting in the appropriate places.

The albums and cards are being sold at 50 cents per set..

EDWARD MUSPRATT SOLLY SCHOLARSHIP

The Edward Muspratt Scholarship was awarded to Miss Mary Thompson, a graduate of the University of the Witwatersrand. This is the first time that the scholarship has been awarded since 1952. Miss Thompson worked at the Compton Herbarium, paying particular attention to Hypoxideae, Spiloxene and Cape flora.

KIRSTENBOSCH FILMS

To mark the Kirstenbosch Jubilee celebrations in 1963 BP Southern Africa (Pty.) Ltd. sponsored the films *Fairest Heritage* and *Kirstenbosch Jubilee Journey* and Caltex (Africa) Ltd. sponsored *Dance to the Sun*. *Kirstenbosch Jubilee Journey*, as its name implies, deals with the Jubilee celebrations and in particular with the 5,000-mile botanical tour of South Africa which was organized for our overseas visitors.

gereël is. Die ander twee rolprente handel slegs oor Kirstenbosch.

Die samewerking en ondersteuning van B.P. en Caltex word besonder hoog gewaardeer.

NUWE TAKKE VAN DIE VERENIGING

'n Paar jaar gelede is die konstitusie van u vereniging verander om voorsiening te maak vir die stigting van Streektakke in verskillende dele van die land. In Transvaal en Oos-Vrystaat is besondere geesdrif getoon. Die Transvaalse tak, met hoofkwartier in Johannesburg, het uitstekend begin en het reeds meer as 1,000 lede en baie meer inskrywings word daagliks ontvang. Professor Rycroft het 'n lesing gelewer tydens die eerste byeenkoms en etlike ander is gereël.

Die Oos-Vrystaatse tak, te Harrismith, se ledetal is kleiner maar is net so geesdriftig en vol belangstelling.

GESKIEDENIS VAN KIRSTENBOSCH

Professor R. H. Compton, Direkteur van die Nasionale Botaniese Tuine van Suid-Afrika vanaf 1918 tot 1953 was die aangewese persoon om 'n oorsig te skryf oor die eerste vyftig jaar van Kirstenbosch. Dr. Mary Alexander Cook het die geskiedenis van die gebied vir die tydperk voor 1913 geskryf.

Hierdie boek, propvol interessante inligting, sal binnekort gepubliseer word.

CHRISTIAAN HENDRIK PERSOON

In die artikel op bladsy 37 van hierdie Jaarboek kan lede lees van die suksesvolle poging in verband met die restourasie van die graf van Christiaan Hendrik Persoon, een van Suid-Afrika se eerste plantkundiges. Noudat toestemming om die graf te herstel uiteindelik verkry is, word fondse dringend benodig om die beraamde koste van R220 te dek. Donasies, hoe klein ook al, word verwelkom en kan gestuur word aan die Direkteur, Nasionale Botaniese Tuine van Suid-Afrika, Kirstenbosch, Pk. Nuweland, K.P.

DIREKTEUR SE BESOEK AAN DIE BUITELAND

Deur die welwillendheid van die Trustees van die Nasionale Botaniese Tuine van Suid-Afrika en die Ernest Oppenheimer-gedenktrust was ek in staat om baie plekke van plantkundige belang te sien in Europa, die Verenigde Koninkryk, Pole, Rusland en Israel.

Die hoofdoel van my reis was 'n besoek aan die 10de Internasionale Botaniese Kongres in Edinburg gedurende die eerste twee weke van Augustus 1964. Uit 'n botaniese oogpunt beskou was die Kongres die moeite werd. Ongeveer 4,000 afgevaardigdes uit baie wêrelddele was teenwoordig. Ek was aangenaam verras om nie minder nie as 19 van die buitelandse plantkundiges wat die Goue Jubileumvierings van Kirstenbosch bygewoon het by die kongres raak te loop. Hierbenewens was ek natuurlik ook in staat om heelwat ander interessante en waardevolle kontakte te maak met persone wat voorheen slegs deur briefwisseling of weens hul reputasie aan my bekend was.

Op pad na Edinburg het ek 'n paar dae in Lissabon

The other two are merely concerned with Kirstenbosch itself.

We are indeed most grateful to both BP and Caltex for their generous support and co-operation.

NEW BRANCHES OF THE SOCIETY

A few years ago the Constitution of your Society was amended to provide for the establishment of Regional Branches in various parts of the country. Particular enthusiasm has been shown in the Transvaal and in the eastern Orange Free State. The Transvaal Branch with headquarters in Johannesburg has made an excellent start and has well over 1,000 members with many more enrolling at a steady tempo. Professor Rycroft delivered a lecture at the first meeting and several others have been planned.

The eastern Free State Branch centred on Harrismith is smaller in membership but certainly does not lack in enthusiasm and interest.

KIRSTENBOSCH HISTORY

Professor R. H. Compton, Director of the National Botanic Gardens of South Africa from 1918 to 1953 was the obvious person to write an account of the first fifty years of Kirstenbosch. Dr. Mary Alexander Cook has dealt with the pre-1913 history of the area.

This book, packed with interesting information, is expected to be published very soon.

CHRISTIAAN HENDRIK PERSOON

From the article on p. 37 of this Journal members will learn of the successful campaigning for the restoration of the grave of Christiaan Hendrik Persoon, one of South Africa's earliest botanists. Now that permission to repair the grave has at last been obtained funds are urgently required to defray the cost which is estimated at about R220. Donations, however small, would be very welcome and may be sent to the Director of the National Botanic Gardens of South Africa, Kirstenbosch, Newlands, C.P.

DIRECTOR'S TRIP OVERSEAS

Through the generosity of the Trustees of the National Botanic Gardens of South Africa and the Ernest Oppenheimer Memorial Trust, I was able to see many places of botanical interest in Europe, the United Kingdom, Poland, Russia and Israel.

The main objective was to attend the 10th International Botanical Congress in Edinburgh during the first two weeks of August 1964. From the botanical point of view the Congress was well worth while. Approximately 4,000 delegates from many parts of the world were present. It was quite exciting to see no less than nineteen overseas botanists who had attended our Kirstenbosch Golden Jubilee celebrations in South Africa the previous year. In addition, of course, I made many other interesting and valuable personal contacts with people known to me previously only by correspondence or by reputation.

en Madrid deurgebring en na afloop van die Kongres was ek vier dae lank die gas van sir George Taylor, Direkteur van die Royal Botanic Gardens, Kew. Hierna het ek Warschau, Moskou, Leningrad, Wenen, München, Genua, Rome, Athene, Tel Aviv en Jerusalem besoek.

Oral waar ek gereis het is ek uiters vriendelik ontvang en onthaal omdat ons almal dieselfde taal gepraat het: ,,die taal van die Suid-Afrikaanse flora".

H. B. Rycroft

HULDIGING VAN PLANTKUNDIGE

Op 10 Desember 1964 het die Botaniese Vereniging van Suid-Afrika mej. Edith Stephens op 'n party onthaal om haar 80ste verjaardag te vier. Mej. Stephens, een van die min ere-lewenslede van die Botaniese Vereniging, was een van prof. H. H. W. Pearson, stigter van Kirstenbosch, se heel eerste studente en is die erkende Suid-Afrikaanse deskundige oor fungi.

Die Drie-eeue-stigting het 'n bedrag van R800 aan haar geskenk uit erkentlikheid vir haar natuurbewaringswerk aan die Kaap. Hierdie bedrag tesame met haar eie geld het sy gebruik om 'n vlei naby Philippi te koop wat sy aan Kirstenbosch geskenk het. Sedert daardie tyd, agt jaar gelede, het vrywilligers gehelp om uitheemse wattelbome daar uit te roei en die vlei te beplant met honderde spesies van die oorspronklike flora. Mej. Stephens het met hierdie aanplantings gehelp en sy besoek die gebied dikwels. Kirstenbosch sal haar altyd dank verskuldig bly vir haar goedgesindheid en volgehoue belangstelling.

Die Rotariërklub van Rondebosch het mej. Stephens in Maart 1965 vereer deur aan haar 'n sier-adres te skenk as huldeblyk vir haar ,,services to the community". Dit is die eerste keer dat hierdie klub so 'n hoë Rotariërtoekenning doen.

BOEK OOR BOME

'n Gidsboek oor die bome en struike van die Witwatersrand, geïllustreer deur Barbara Jeppe en opgestel deur lede van die Boomvereniging van Suid-Afrika, is onlangs gepubliseer. Hierdie boek bevat ,,all the technical data that would be looked for by the knowledgeable, plus all the incidental material that would be calculated to intrigue and enlighten the newly attracted amateur". Aangehaal uit die *Sunday Chronicle* (6.12.64).

VOORGESTELDE NUWE BOTANIESE TUINE

Die plantegroei van die Oranje-Vrystaat wat wissel van savanne van die Kalahari in die weste tot bergagtige grasveld in die ooste en Karoo-plantegroei in die suide, is baie ryk aan plantegroei wat wetenskaplik en estetiese belangrik is. Die stigting van 'n botaniese tuin in hierdie provinsie om die studie en gebruik van hierdie plante aan te moedig is uiters wenslik. Die bestuur daarvan kan maklik onder beheer van die Trustees van die Nasionale Botaniese Tuine van Suid-Afrika geplaas word aangesien hierdie inrigting oor

Before reaching Edinburgh I spent some time in Lisbon and Madrid and after the Congress I stayed for four days with Sir George Taylor, Director of the Royal Botanic Gardens at Kew before travelling to Warsaw, Moscow, Leningrad, Vienna, Munich, Genoa, Rome, Athens, Tel Aviv and Jerusalem.

Wherever I went I was most cordially received and entertained for the reason that we all spoke a common language, 'the language of the South African flora'.

H. B. Rycroft

BOTANIST HONOURED

A party was held at Kirstenbosch on 10 December 1964 by the Botanical Society of South Africa in honour of the 80th birthday of Miss Edith Stephens. One of the few honorary life members of the Botanical Society, Miss Stephens was one of the first students of Professor H. H. W. Pearson, the founder of Kirstenbosch, and is the recognized South African authority on mushrooms.

Out of her own pocket, including a R800 award given by the Cape Tercentenary Foundation in recognition of her nature conservation work at the Cape, she bought a vlei near Philippi and gave it to Kirstenbosch. Since that time, eight years ago, voluntary helpers have weeded out the foreign wattles and replanted the vlei with specimens of the original flora, which numbers hundreds of species. Miss Stephens has helped with the planting and often visits the vlei. Kirstenbosch will always owe her a debt of gratitude for her generosity and continued interest.

In March of 1965 the Rotary Club of Rondebosch honoured Miss Stephens by presenting her with an illuminated address as a mark of recognition of her 'services to the community'. This is the first time this club has made this high Rotary award.

BOOK ABOUT TREES

A guide to the trees and shrubs of the Witwatersrand, illustrated by Barbara Jeppe and compiled by members of the Tree Society of Southern Africa, has recently been published. This publication has 'all the technical data that would be looked for by the knowledgeable, plus all the incidental material that would be calculated to intrigue and enlighten the newly attracted amateur', to quote the *Sunday Chronicle* (6.12.64).

PROPOSED NEW BOTANIC GARDENS

The vegetation of the Orange Free State, ranging from the savannah of the Kalahari in the west to the mountain grassveld in the east and the Karoo vegetation in the south, is very rich in plant species which are important from a scientific and also from an aesthetic point of view. The establishment of a botanic garden to encourage the study and use of these plants in the centre of the province is highly desirable and its organization could safely be entrusted to the Board of Trustees of the National Botanic Gardens of South genoeg ondervinding beskik en ook in aanraking is met wetenskaplikes en organisasies uit alle wêrelddele.

'n Vertaling uit die *Cape Times* in Februarie 1964 lui:

,,Prof. H. B. Rycroft het gedurende 'n onderhoud gesê dat hy hoop dat dit binnekort moontlik sal wees om 'n streeks-botaniese tuin in die Vrystaat aan te lê onder beheer van Kirstenbosch.

,,Pogings sal hoofsaaklik aangewend word om die flora van die Vrystaat te kweek.

,,Professor Rycroft het hierdie week uit die Vrystaat teruggekeer nadat hy die stigting van die tuin bespreek het met die Administrateur, mnr. J. W. du Plessis, die Rektor van die Universiteit van die Oranje-Vrystaat, prof. P. W. G. Groenewoudt en die Burgemeester van Bloemfontein, mnr. A. D. Viljoen. Almal was baie geesdrifiig.

,, 'n Geskikte terrein van 50 morg is omtrent 4 myl vanaf die middestad van Bloemfontein gevind. Daar is volop water en 'n groot verskeidenheid natuurlike plantegroei wat wissel van groot bome in die beboste klowe tot vetplante en Karooplante in die blootgestelde gebiede.

,,Gedurende die Jubileumreis in 1963 het die 50 buitelandse plantkundiges wat aan die reis deelgeneem het die Oostelike-Vrystaat een van die interessantste dele van die toer gevind.''

Die stadsraad van Harrismith, in die Oos-Vrystaat, is bereid om 'n groot stuk grond te skenk vir die aanlê van 'n botaniese tuin aldaar. Hulle is bereid om water vir die tuin te verskaf en om 'n jaarlikse hulptoelaag te maak.

GIDSBOEK OOR NUWE RESERVAAT

Prof. H. B. Rycroft en twee van sy personeellede, mnre. A. J. M. Middlemost en H. L. de Villiers het 'n week in die Tzitzikamawoud- en Kusstreek, Nasionale Tuin deurgebring. Hulle het gegewens ingesamel vir 'n gidsboek oor die bome en struike in hierdie nuwe nasionale tuin wat beskrywings en illustrasies van die belangriker boomsoorte van die gebied sal bevat. Die geskiedenis van die woud asook die medisinale, ekonomiese en ander gebruike van die bome en struike sal ook beskryf word.

OP SOEK NA GLADIOLI IN DIE BUITELAND

Min Suid-Afrikaners weet dat die meeste van die pragtige gladioli waarvoor die Hollandse en Engelse tuine so bekend is, ontwikkel is van die wilde gladioli wat deur die eerste Hollandse en Britse setlaars aan die Kaap versamel is.

Dr. Joyce Lewis, Navorsingsbeampte aan die Compton-herbarium, Kirstenbosch, is besig aan 'n spesiale studie van hierdie genus. Sy het onlangs na Europa vertrek om haar navorsing voort te sit. Suid-Afrika het byna 200 variëteite en die hoofdoel van haar studieverlof is om die groot versameling Suid-Afrikaanse gladioli op Kirstenbosch van die regte name te voorsien en om uit te vind watter van die nuwe variëteite nog name moet kry. Die grootste

Africa, which has a wide experience and contacts with scientists and organizations all over the world.

In February 1964 the *Cape Times* carried the following news item:

'Prof. H. B. Rycroft . . . said in a statement that he hoped it would soon be possible to establish a regional botanic garden in the Free State under the control of Kirstenbosch.

'Efforts would be devoted almost entirely to the cultivation and preservation of the flora of the Free State.

'Professor Rycroft returned this week from the Free State where he discussed the establishment of a garden with the Administrator, Mr. J. W. du Plessis, the Rector of the University of the Orange Free State, Prof. P. W. G. Groenewoudt, and the Mayor of Bloemfonten, Mr. A. D. Viljoen. He said they were all enthusiastic.

'A suitable site of 50 morgen had been found about four miles from the centre of Bloemfontein. It had abundant water and a great variety of natural vegetation, ranging from large trees in the wooded kloofs to succulents and other Karoo plants in the exposed areas.

'Last year (1963) the 50 international botanists, who toured South Africa as part of the golden jubilee celebrations of Kirstenbosch, found the eastern Free State one of the most interesting parts of their tour. The Town Council of Harrismith, in the eastern Free State, has voted a large portion of ground for the establishment of a botanic garden there. They are willing to provide water for the garden and to make an annual grant towards the project.'

PREPARING GUIDE TO NEW RESERVE

Prof. H. B. Rycroft and two of his staff members, Mr. A. J. M. Middlemost and Mr. H. L. de Villiers, spent a week in the Tzitzikama Forest and Coastal National Park. They were gathering information to be embodied in the guide to the trees and shrubs in this new national park, which will consist of descriptions and illustrations of the more important species in the forest area. There will also be notes on the history of the forest and on the medicinal, economic and other uses of the shrubs and trees.

TRACING GLADIOLI OVERSEAS

Few South Africans realize that most of the lovely gladioli for which Dutch and English gardens are so well known have been evolved from the wild gladioli found here in the early days of the Dutch and British occupations of the Cape.

Dr. Joyce Lewis, Research Officer in the Compton Herbarium, Kirstenbosch, has been making a special study of this plant family and left for Europe recently to continue her research. South Africa has nearly 200 varieties and the main object of her study leave is to enable the large collection of specimens of South African gladioli at Kirstenbosch to be correctly named, and to discover which of the newer varieties still

buitelandse versameling is te Kew waar dr. Lewis die langste sal vertoef.

Sy is reeds sedert 1945 'n Raadslid van die Botaniese Vereniging.

GLASDAK VAN DIE OU KAAPSTADSE STASIE

„Kaapstad se ou stasie, baken vir baie geslagte, moet plek maak vir 'n nuwe straat. Maar die glasdak sal behoue bly—te Kirstenbosch." Dié verklaring lees ons in die *Cape Argus* van 13 Maart 1965.

Dieselfde dag lees ons in die *Cape Times*:

„Mr. Schoeman's statement in Parliament that the glass roof of the old station building will be given to Kirstenbosch opens up the exciting possibility that our own National Botanic Gardens may be able to acquire one of those enormous glass houses which have enabled places like Kew, the Royal Botanic Gardens in Edinburgh and the Botanic Gardens at Schönbrunn in Vienna to grow large tropical trees. One thing lacking at Kirstenbosch is a place to grow fine trees like baobabs and fever trees, as well as a house large enough to give visitors sauntering room during showers. Dismantling and re-erecting, plus reglazing of some parts now boarded, will be a formidable undertaking, but it is a technical (and perhaps financial) challenge worth meeting. And the historical associations of the building will add enduringly to its value."

WENNER VAN J. W. MATHEWS-TROFEE VIR MARION-EILAND

Brian Huntley, wenner van die J. W. Mathews-trofee in ons 1961-kompetisie, terwyl hy nog 'n leerling van die Durban-Noord Hoër Seunskool was, het onlangs die B.Sc-graad ontvang met plantkunde as sy hoofvak. Hy is lid van die Suid-Afrikaanse wetenskaplikes wat na Marion-eiland gegaan het. Dit is aangenaam om te dink dat ons 'n klein aandeel gehad het in sy keuse om plantkundige te word en ons wens hom 'n gelukkige en voorspoedige toekoms toe.

have to be named. The largest collection overseas is at Kew where Dr. Lewis will spend most of her time.

She has been a member of the Council of the Botanical Society since 1945.

GLASS ROOF OF OLD CAPE TOWN STATION

'Cape Town's old railway station, landmark for many generations, is to make way for a city street. But the glass roof will be preserved—at Kirstenbosch.' This statement greeted us from the pages of the *Cape Argus* on 13 March this year.

On the same day the sub-leader of the *Cape Times* read:

'Mr. Schoeman's statement in Parliament that the glass roof of the old station building will be given to Kirstenbosch opens up the exciting possibility that our own National Botanic Gardens may be able to acquire one of those enormous glass houses which have enabled places like Kew, the Royal Botanic Gardens in Edinburgh and the Botanic Gardens at Schönbrunn in Vienna to grow large tropical trees. One thing lacking at Kirstenbosch is a place to grow fine trees like baobabs and fever trees, as well as a house large enough to give visitors sauntering room during showers. Dismantling and re-erecting, plus reglazing of some of the parts now boarded, will be a formidable undertaking; but it is a technical (and perhaps financial) challenge worth meeting. And the historical associations of the building will add enduringly to its value.'

J. W. MATHEWS TROPHY WINNER FOR MARION ISLAND

Brian Huntley, who won the J. W. Mathews award in our 1961 competition while he was still a schoolboy at Durban North Boys' High School, has completed his B.Sc., majoring in Botany, and has accompanied the team of South African scientists to Marion Island as one of their botanists. We like to think we had a little to do with his choice of a career and wish him a happy and successful future.

WOULD MEMBERS PLEASE NOTE THAT IN FUTURE, MEMBERSHIP CARDS AND SEED LISTS FOR THE ENSUING YEAR WILL BE POSTED *SEPARATELY* AT THE END OF EACH YEAR AND WILL NO LONGER BE ENCLOSED IN THE JOURNAL AS HAS BEEN THE PRACTICE IN THE PAST.

Cape Flowers Far from Home

Dudley D'Ewes
President, Botanical Society

A four-month journey last year which took my wife and me to Skye and Ullapool in one direction and Vienna in another, with stops of varying length in between, was not undertaken as a study tour, or as a garden survey. We went frankly as trippers, eager for any entertainment suitable to our purse and our years.

But we could not miss seeing old friends when we passed them. Inverewe Gardens, for example, in the latitude of Labrador, way up in Wester Ross, in the Scottish Highlands, is the one place outside South Africa where I have seen *Dierama pulcherrimam* growing and blooming as well as it does in the Dell Stream where it leaves the main lawn at Kirstenbosch. A few yards on we found quite a sizeable planting of agapanthus, which obviously had bloomed well. Among the trees there were several specimens of eucalypts. I am not particularly fond of this Australian genus, but they have become part of the Cape scene, and it was like a bit of home to see them so far away and in surroundings so different from anything here.

The founder and his successors at Inverewe Gardens magnificently used the horticultural opportunity given them by a quirk of the local micro-climate to grow plants which, a few miles away on the open moors, would perish at the first touch of winter. But without being complacent I think we should remember, when paying due tribute to the zeal and skill of the Scots who created and maintained all this, that we have a similar *tour de force* at Kirstenbosch in the succulent slope above the annual section. After all, Kirstenbosch is in Newlands, notorious for its wetness and for 'losing the sun' early in the afternoon. Yet, by skilful choice of a sunny aspect, and by equally skilful surface drainage achieved by close-packing stone, the first Curator, J. W. Mathews, created a succulent garden where a big range of dry-country succulents has continued to thrive for all these years.

These two extreme examples should be an incentive-lesson to all of us who are gardeners to use every local advantage we can in widening the interest of our gardens. I should add that one of my colleagues on the Kirstenbosch Board of Trustees grows stapelias in the open at Fish Hoek—and he has made them love it by giving them a sunny aspect and really efficient surface drainage.

Still in Scotland, the Royal Botanic Gardens in Edinburgh gave us the thrill of a bed of gazanias as close-packed with gay colour, though not as big, as any of Colin Gohl's parkway verges in Cape Town. As background to a spectacular display of the European autumn crocus, too, Edinburgh had a clump of freely-blooming agapanthus.

But apart from echoes of home, the Royal Botanic Gardens in Edinburgh were most interesting to us for the Alpine section. These miniature rockery plants are grown there in a fascinating variety, and I could not help thinking that it should be possible to grow an Alpine-type rockery here with many of the miniature plants that make our veld and the damper mountain crannies go gay for such a long time—some of the little helichrysums, oxalis species, the smaller gentianaceae, the miniature aristaeas, to mention only a few. We South Africans are too much inclined to think that rockeries are for succulents only.

At the other extreme of our journey, Vienna, we went to visit the WIG, the world horticultural exhibition, which had been going for all the summer. It was latish in September when we got there. The day before had been summery. Our first day was so cold that we could not endure more than 45 minutes of the show. Whether outside (where most of the plants were past their best) or inside, the wind seemed to find every pore of our bodies and to plant an icicle in each separate one. But we have brought away an enduring memory of vast pyramids of colour in the vegetable section, built up of red cabbage and green, purple onions, and the most richly red chillies I have ever seen. One other memory is of the almost anaesthetic smell of apples in the Italian pavilion. But the cold was too much; we had to leave the greater part of this vast exhibition unexamined.

A day or two later, in warmer and sunnier weather, we met a cheerful face from home in the other end of Vienna: in long beds masking the glass domes giving light to an underground parking place in the square before the Votiv Kirche (an amazing example of Victorian Gothic) there was a thick planting of the white daisy *Osteospermum ecklonis* (which used to be known as *Dimorphotheca ecklonis*). It was really looking happy. It was performing a useful duty, and nodded a breezy *tot siens* to us as we went on our sight-seeing way.

In Amsterdam the warming we had was not so much of the hearts as of innards a bit lower down—not so much from well-remembered faces as from well-remembered flavours: the immense range of curries and other eastern dishes in that city of a thousand cooks. From which readers of this Journal will gather that our stay there was almost strictly urban.

So was London, where we had but one chance to visit Kew, the very vastness of which intimidates the short-term visitor into treating it as a park for sauntering rather than as a place for study.

Finally, to end these discursive notes, we were touched as well as amused to see, when emerging from a visit to the loveliness of Queen Mary's Garden in Regent's Park, that those English gardeners had put flowerboxes even on the parapets of a bridge crossing the canal—and that the tallest things in these boxes were ordinary blue-gums, their glaucous foliage contrasting pleasingly with the green of other plants and the black paint of the bridge truss. That is one thing I have never seen and never expect to see at home: a blue-gum used as a pot-plant!

JOURNAL OF SOUTH AFRICAN BOTANY

BACK NUMBERS

Volumes I–XV of the *Journal of South African Botany* are in very short supply, parts of volumes and, in some cases, whole volumes being out of print.

The Trustees of the National Botanic Gardens of South Africa who are responsible for the publication of this scientific periodical would like to appeal to members of the Botanical Society of South Africa who might be able to make available to Kirstenbosch any copies of volumes or parts of volumes which they can spare.

Anyone able to assist should communicate with

The Director,
National Botanic Gardens of South Africa,
Kirstenbosch, Newlands, C.P.

Notes on Streptocarpus and its Cultivation

H. B. Rycroft and G. M. L. Feinauer
National Botanic Gardens of South Africa, Kirstenbosch

Members of the Botanical Society of South Africa and other keen gardeners are always on the look-out for something new. During the last few years several species of Streptocarpus, not previously cultivated, have been introduced to Kirstenbosch and seeds are now available for distribution to members on their annual quota.

The name Streptocarpus comes from two Greek words which mean 'twisted fruit'. Unlike some other plant names this one is most appropriate because the fruit, or capsule, twists spirally as it matures. 'Cape Primrose' is the common name by which several species of Streptocarpus are known.

The family Gesneriaceae to which Streptocarpus belongs is a large and widely distributed one. Altogether there are more than 80 different genera with 1,000 or more species found in many parts of the world, mainly in tropical and subtropical climates. Many of them are most decorative and include such plants as Achimenes, Columnea, Gloxinia and Saintpaulia (African Violet).

Streptocarpus is the only genus of the family indigenous to South Africa and it has about 50 species, of which more than 20 are to be found in our country, extending from the Transvaal, Zululand, Natal, the eastern Orange Free State and as far south as the Knysna region. They are usually found in damp places such as in the shade of forest trees. Mrs. O. M. Hilliard of Natal is making a special study of this interesting group of plants. (See *Journal of South African Botany*, vol. 30, 1964). Many species are being grown very successfully at Kirstenbosch.

One of the best known species is *S. rexii*, which is found commonly in the Knysna forests. Actually it has a rather wide distribution and extends as far north as Barberton in the eastern Transvaal. It is grown mainly as a pot-plant and is to be seen in Botanic Gardens throughout the world. One of the authors—H. B. Rycroft—saw it in glasshouses in Moscow and Leningrad.

In the *Curtis Botanical Magazine* of 1830, in which there is a colour illustration, this is written about *S. rexii*:

> 'For this, one of the most beautiful inhabitants of our stoves and warm greenhouses, we are indebted to the Royal Gardens of Kew, to which place it was introduced by Mr. Bowrie, His Majesty's collector in Southern Africa. Specimens and seeds were gathered in the district of Knysna, upon the estates of George Rex, Esq., after whom its discoverer wished the plant to be named. So abundantly does it produce seed, that new individuals come up as weeds in the neighbouring pots, and a succession of flowers may be obtained at almost any period of the year.'

Sir W. J. Hooker, the first Director of the Royal Botanic Gardens at Kew, described it a *Didymocarpus rexii* in 1827. Didymocarpus is a related Indian genus. In the following year Lindley founded the African genus Streptocarpus, into which he placed *S. rexii*. The correct naming of this species is therefore *S. rexii* (Hook.) Lindl.

Several varieties are known to occur and many hybrids of various colours and sizes have been produced and are grown for the commercial trade. The seeds have a high value and may sell at any price up to R100 per ounce.

S. rexii is easily recognized by its spreading leaves and by the long, narrowly funnel-shaped

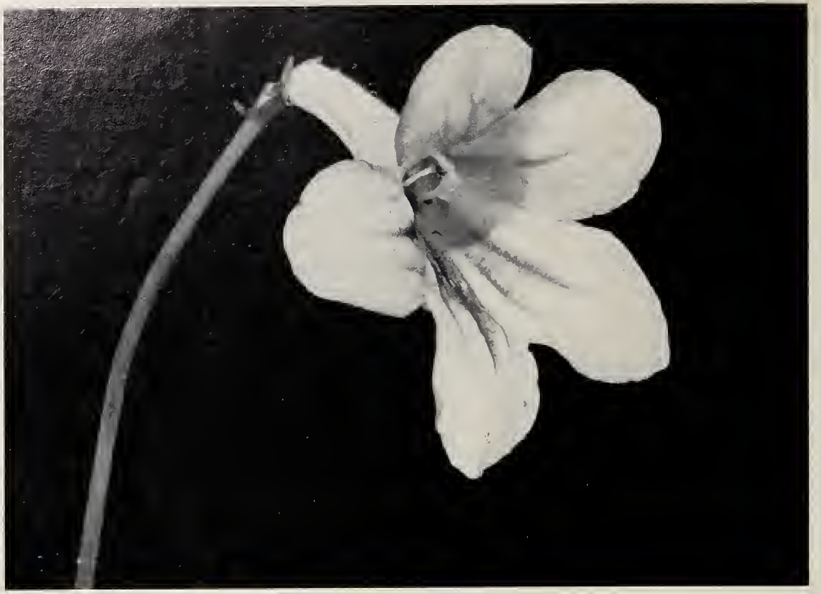

Plate 2. *S. rexii.* *Photo:* H. B. Rycroft

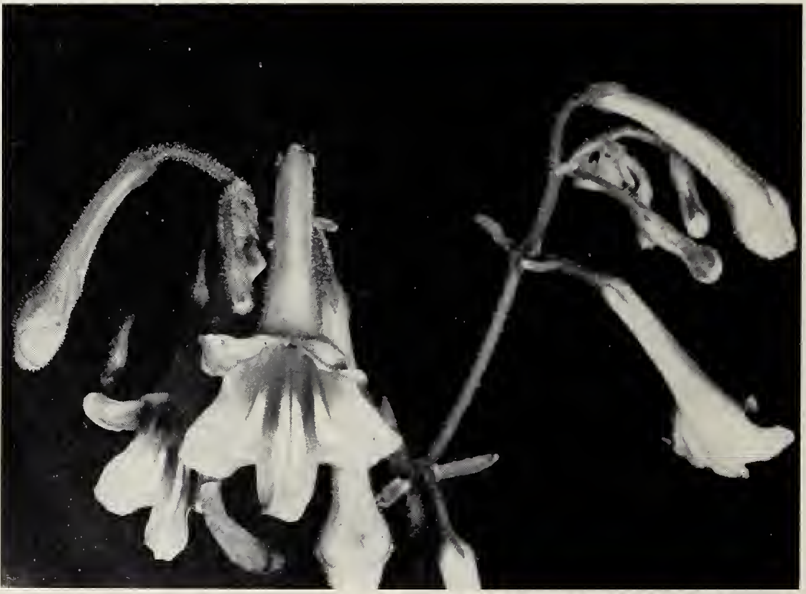

Plate 3. *S. cooperi.* *Photo:* H. B. Rycroft

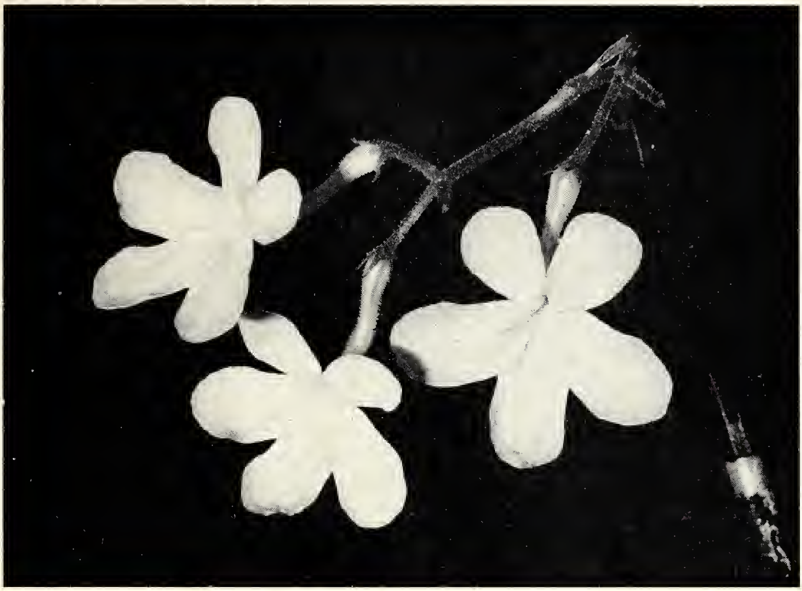

Plate 4. *S. polyanthus.*
Photo: H. B. Rycroft

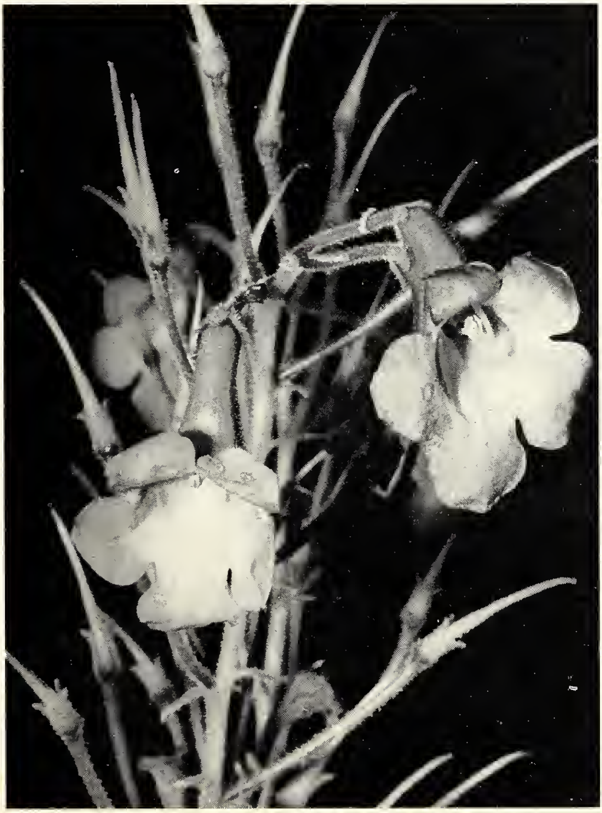

Plate 5. *S. pusillus.*
Photo: H. B. Rycroft

corollas of the flowers, of which one or two are produced at the ends of peduncles up to 12 inches long.

Other species produce only one leaf spread flat on the ground measuring up to 3 feet in length and 2 feet in width. In this group *S. dunnii* perhaps takes pride of place with its profusion of flowers. *S. cooperi*, *S. cooksonii* and *S. eylesii* with flowers of blue, mauve or yellowish colour borne on tall, well-positioned peduncles never fail to fascinate the flower lover. Others in this group worth growing, mainly because of their graceful habit and because they are smaller plants that require very little space, are *S. bolusii*, *S. reynoldsii* and *S. polyanthus*. A third group in which the plants have obvious stems includes *S. nobilis* and *S. glandulosissimus*.

There is a fascination in growing Streptocarpus, and it can be very interesting to cultivate several species to give a succession of blooms over a long period. At Kirstenbosch *S. rexii* comes into bloom as early as October and continues until late autumn, whereas *S. dunnii*, *S. cooksonii* and *S. cooperi* commence flowering at the end of November and remain in bloom for ten weeks.

Another advantage in growing 'Streps' is that some species flower as early as three months after sowing whereas others take as long as fifteen months. Sowings at Kirstenbosch are made in August or September, that is, early in spring.

The following periods have been observed between sowing in August and commencement of flowering:

3 months—*S. gardneri*
4 months—*S. bolusii*, *S. pusillus*
5 months—*S. grandis*, *S. meyeri*, *S. rexii* and hybrids
7 months—*S. cooperi*
13 months—*S. cooksonii*, *S. saundersonii*
15 months—*S. dunnii*, *S. eylesii*

Streptocarpus grows best in a mixture of one-third leaf-mould, one-third river sand and one-third compost and is propagated either by division of plants or by seeds. Seeds should be sown during spring under glass as follows:

Use a clay pot well drained. Fill the pot with a mixture of leaf-mould, river sand and compost, which must be sifted together in the proportions given. The pot when filled should be plunged into water so as to absorb moisture from the base of the pot. Once the pot has absorbed sufficient moisture remove it to drain. During the draining period, the seeds should be very lightly and evenly distributed over the surface. Cover the pot with a square of glass and place the pot in a permanent position in your glasshouse in a temperature of about 60 to 65 degrees F. Turn the glass covering the pot each morning to avoid dripping of condensed moisture. Germination takes from eighteen to twenty-eight days. The glass cover must be raised by degrees each day after germination until finally removed when the seedlings are four weeks old.

The tiny seedlings may be pricked out into 1 inch pots when the third leaf appears and potted on as growth of the plant demands space both in root and leaf.

A liquid feed is always helpful to promote good vigorous growth, healthy foliage and profusion of blooms but should not be overdone. Feed the plants at three-week intervals.

The diseases which attack Streptocarpus are mainly aphis, soft scale and mealy bug. Spray as a precaution once monthly with a suitable insecticide.

As the plants are mainly vigorous growers, they must be repotted each year during early spring to ensure a good display of blooms. At no time must watering be overdone as this can cause damping off. Remember to drain the pots well, to use the correct proportion of soil mixture, to water sparingly and to spray regularly and your Streptocarpus, if kept at the right temperature, will reward you with a wonderful display of colour.

Growing S.A. Proteaceae in New Zealand

WALLACE R. STEVENS
Wanganui, New Zealand

My interest in the proteaceous plants of South Africa dates back to 1918, when I first saw *Protea mellifera* in flower in a nursery in New Zealand. I was intensely attracted, both by its style of growth, and by its amazing flowers. I decided then that someday I would cultivate not only this plant, but other species of this genus, as I felt sure that there must be a lot more worth growing. In referring to this species by its old and long established name, I am indulging in a deliberate rebellion. I am well aware that after research into ancient herbaria, the first name given the plant was *Protea repens*, and therefore to conform to the international botanical rules, the specific name of *mellifera* is being dropped in favour of *repens*. This is a horrible misnomer, and so offends me that I am sticking to the very long established, and far more suitable, old name, when I speak of this lovely flower.*

In 1932 I established my own nursery, and one of the first plants I procured with which to stock it was *Protea mellifera*. This grew well with me, and proved to be quite hardy as far as the plant itself was concerned, but occasionally a few flowers were damaged by frost. This was hardly to be wondered at, as in that particular district we had, now and again, frosts of up to 16 degrees.

In 1945 I shifted to my present garden in Wanganui, only some 30 miles away, but a very much milder district where, though we do get some frosts, it is rare indeed if they are greater than 3 or 4 degrees. Here I set about really growing proteas. The first year I planted out over one thousand seedlings, and the second year another five hundred. The species consisted mostly of *P. susannae*, *P. neriifolia*, *P. pulchra* (sub-pulchella), *P. latifolia*, *P. compacta* and *P. longiflora*, though there were a sprinkling of other species also. As it was almost virgin soil, newly cleared of a rank growth of the European gorse, *Ulex europens*, it was rich in humus and the proteas responded with rapid growth. In two years' time, I cut my first flowers, and by the third and fourth years, I was in full production.

All these plants had been raised from seed which was procured from your country, and as was to be expected, some species showed considerable variation. As an instance, there were many intermediate forms between *P. neriifolia* and *P. pulchra* which puzzled me. Were they just variations, or was there a suspicion of a *mésalliance*? Even today I have not made up my mind, but I still have suspicions. I must say that my primary object in growing these plants was for cut flowers, for which they are admirably suited. Well, I succeeded—in fact I almost *over*-succeeded, as for several winters I was cutting over 10,000 flowers, and this was just as much as the New Zealand market would take. As time went on, I added more species, and occasionally I came up against problems. I found, for instance, that *P. cynaroides* objected to my heavy clay subsoil, and refused to grow well. I tried it in different aspects, but the result was always the same failure. So for years I refused to try it any more. But recently I thought about it again—had I given up too easily and too soon? So once more I planted it, this time in a drain from which the clay had been removed down to a depth of 26 inches, and tile drains inserted. Finally I filled the whole drain with pumice, of which we have large deposits not far from Wanganui. In these conditions they did well and flowered quite profusely, but I cannot go around the place digging drains, so I content myself with the fact that I have found out what this species requires. I should mention that in many districts in New Zealand, where the soil is far lighter and without my clay subsoil, *P. cynaroides* does excellently, in fact far better than I have seen in South Africa, either in gardens or in the wild. Since then I have found several more species that are just as fussy—such as *P. speciosa*, *P. stokoei*, *P. comptonii*, *P. curvata* and *P. rubropilosa*.

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* To disregard the International Rules of Botanical Nomenclature is unlikely to help in reaching any stability in the naming of our plants. It is surprising how many South Africans have already adopted the name *P. repens* for the Sugarbush; in fact most people refer to it now simply as *Repens*.—EDITOR.

As a plantsman, I welcome challenges, but not too many and not too often! One species that really pleased me was *P. marlothii*, as this flowers so early in the winter and continues over a long period. This species is a little slow to start, but when well established is a vigorous grower. Most of my plants are now over 10 feet across, and we cut hundreds of flowers off them during the season.

Before going into the matter of culture, a few remarks would be in order about my soil, climate, etc. First, the soil. It is a black loam to about a depth of 8 inches, and under this is a terrible, cloggy, clay, subsoil. This clay usually gets water-saturated in the winter, and in the summer dries out so badly that often large cracks appear. Our pH runs from 5.5 to 6.5, and our average rainfall is 35 inches. Temperatures in summer do not go much higher than 84 degrees F. and in winter it is unusual if the temperature drops below 30 degrees F.

In some respects the climate at Bastia Hill is similar to that of certain parts of Cape Town. The main differences are that we have a little more rain in the summer months, a longer winter and a shorter summer. Also we have much more humidity. I am sure that this humidity plays a big part in the successful growing of proteas, but it is very difficult to prove it, although there is a certain amount of evidence from such dry climates as Australia and California. I remember, in Adelaide, seeing proteas growing that were very far from happy, and yet a few miles away in the Lofty Ranges they were growing well. There they have a much cooler climate and more rainfall.

I have seen many plantings of proteas in South Africa, but in most cases they did not seem particularly happy, and I think this is due to lack of organic matter. During my tour, I have been repeatedly told that animal manure should not be given to proteas—it is fatal! I do not know who originated this fallacy—for fallacy it is—because on my garden I use literally tons of animal manure, and I have yet to see a protea that did not like it. The sheep manure used is procured from the railway yards, and is the sweepings from the trucks in which stock have been carried. We mix straw, hay or any weeds with it, and leave it for a year to ripen, when it is ready for use. The procedure then is to get a small barrow-load of it and dig it in each position where we intend planting. If for some reason this manure is not dug in before planting, then the plants are heavily mulched with the same material. I do not use artificial manure at all, not that I have anything against it, but simply that I want to put humus into my soil, and this is obtainable only by the addition of organic matter. A soil rich in humus stands up to dry weather far better than a soil without it. Another point is that growth is far more rapid, and plants commence flowering at an earlier age.

Here I must bring in the matter of pruning—a very important part of the successful culture of proteas. In fact, I have found that nearly all South African shrubs from proteas, leucospermums, leucadendrons and serrurias, to ericas, berzelias, brunias, adenandras and your leguminous plants, must be pruned to continue in growth and health over the years. In most cases, in fact almost without exception, pruning must start when the plant is young and small, and be continued as an annual routine. Not only does this keep the plants in health, but it transforms many of your leggy shrubs into pleasing, attractive bushes which will produce from five to twenty times as many blooms to the plant—and these flowers are of far better quality.

As I am supplying flowers to the market, you can imagine that very few flowers go to waste, and this in itself constitutes a vigorous pruning. But even when the flowers are not cut for the market, due maybe to damage or other reasons, this flowering shoot is automatically shortened. This vigorous pruning induces new growth every year, and gives better quality flowers. But do not forget that, before you can prune, you must have *growth* to prune, and this is where humus comes in. If a plant is stunted or making very short growths every year, there is no suitable growth to prune. Pruning, therefore, must go hand in hand with good feeding, if the correct cultural cycle is to be carried out. The more growth produced, the greater the need of pruning and the more pruning that is carried out, the thicker and healthier the growth.

Now as to propagation. Very few protea species can be relied on to set seed in New Zealand, and this could possibly be due to our not having the right kind of birds in search of nectar. We can, of course, cross-pollinate, and one or two nurserymen do this regularly. But in the main, we rely on supplies of seed from South Africa, and this is quite satisfactory with the more common species, although germination can be erratic. But if we want seed of the more uncommon species, then it becomes very difficult to procure them. Such species as *P. aristata, odorata, marlothii, pityphylla*, and many others are seldom available for purchase. This should not be so. I have always maintained the best method of preservation is that of dissemination. By spreading supplies in as many parts of the world as possible, there could then be little danger of any species becoming extinct. As an example, during the last ten years, I have been sending seed of *Erica oatesii* back to South Africa. I have also in the past sent seed to Kirstenbosch Botanic Gardens of *Helixyra torta, Geissorhiza rochensis* and other uncommon items. This is a service I am delighted to be able to give, and sets a good example of 'bread cast upon the waters'.

But I have got away from this matter of propagation of proteas. Propagation from cuttings has been practised in New Zealand for a great many years, though not always with much success. The advent of 'mist propagation', however, has completely changed the picture, and nurserymen here have been quick to realize the potentialities. Probably the most popular species here is *P. neriifolia*, and this species is now almost entirely grown from euttings. Some species such as *P. cynaroides*, and *P. barbigera*, are slow from cuttings, and these will continue to be grown from seed. Again I would emphasize that, whatever the method of propagation, the young plants should all have their leading tips pinched out as soon as they are really grown, for this is the foundation of a good, well-branched shrub.

What I have said regarding protea culture applies equally to leucospermums and leucadendrons, and to other proteaceous plants—I know of no exceptions. Summarized it is, *manure and prune!*

With regard to ericas (of which I grow over 50 species), the story, so far as manuring is concerned, must be modified. Ericas do like a rich soil, but with their fine hair-like roots they require any manure to be truly incorporated into the soil, and already transformed into humus *before they are planted.* But equally with the proteaceae, they need early and continued pruning.

ASSOCIATE MEMBERS

CANCELLATION OF SEED DISTRIBUTION

Associate Members are cordially reminded that according to the Botanical Society Council's decision in 1963, the gratis distribution of seed for this form of membership has been discontinued.

Associate Members will continue to enjoy all other benefits as formerly, that is, admission to all Society meetings, free issue of the annual Journal and free parking at Kirstenbosch.

Many have transferred to Ordinary membership which costs only R3 per annum and for which the allocation of seeds is 15 packets.

A Botanist's Busman's Holiday

W. F. Barker
Curator, Compton Herbarium, Kirstenbosch

At the end of August 1964, I left by air on a three-month holiday to Australia and New Zealand. On my arrival in Australia I was the guest of Mr. and Mrs. Arthur Fairall, who had both been members of the Kirstenbosch staff before going on active service in 1940. They had emigrated to Perth, West Australia, two years previously when Arthur had taken up a post in King's Park under the Director, Dr. John Beard, as Curator of the newly established garden for the growing and study of the indigenous flora of West Australia. The south-western corner of this vast state, three times the size of the Republic, has a mediterranean climate similar to our own and a very rich flora indeed.

On 6 September I was joined by my brother Mr. W. E. Barker and his wife from Grahamstown on a six-day 'West Australian Wild Flower Study Tour' to Geraldton, about 300 miles north of Perth, conducted by the Midland Road service. The tour was excellently organized down to the most minute detail.

Before our departure the organizer of the tour read out the Wild Flower Protection Laws which are very similar to our own. He then introduced us to the botanist, hostess and driver who were to be responsible for our instruction, comfort and safe arrival. The botanist, Mrs. Judy Hamersley, who was well acquainted with the district and its flora, chose the stopping places for botanizing and assisted with the identification of small specimens of unprotected species, which we were allowed to pick and keep for further study in the evenings. Mine, stuck into an exercise book, are treasured possessions. Thus we were able to see and enjoy the exquisite and fascinating West Australian sand-plain flora to the best advantage, and fully agreed with the advertisement which had promised to take us through 'The Open Door to Flowerland' and we could well add to 'Wonderland'.

On our return to Perth, we were able to witness and give a little assistance in the erection and staging of the first Wild Flower Show to be held in King's Park, which was quite magnificent, and could compare favourably with the 1963 Jubilee Show at Goodwood. The theme was Conservation and Preservation, and nowhere could you find two more ardent disciples than the two 'New Australians'.

After their prodigious efforts Pauline and Arthur Fairall decided to take a holiday, and invited us to join them on a caravan tour through the magnificent 'Karri Forests', which contain some of the tallest trees in the world, '*Eucalyptus diversifolius*', the 'Karri', and *Eucalyptus marginata* or 'Jarrah'. Before reaching the forest area we passed between roadside verges covered with sheets of babianas and watsonias, unwelcome but beautiful immigrants from South Africa.

We visited the magnificent natural and scarcely developed harbour of Albany, and then went north through the still completely unspoiled and beautiful Stirling Range National Park, and back into the sand-plain flora of Lake Grace, where we met an almost completely new set of species.

On our return to Perth we were entertained by Dr. John Beard, who had returned in the meantime from the International Botanical Congress in Edinburgh.

We then flew over the thousand miles of the Nullabor Desert, which separates West Australia from the other states, to Adelaide, where we stayed with my niece and I was able to renew acquaintance with Miss C. Eardley, one of the botanists on the Jubilee Botanical Tour in South Africa.

Most of the major cities of Australia were included in our itinerary and I was able to visit three of the State Herbaria and most of the Botanic Gardens, which were very well kept, a feature of all of them being the many magnificent, well-established and clearly labelled trees.

Our brief visit to the Great Barrier Reef was an unforgettable experience, as was the six-day tour of the Snowy Mountain Hydro Electric Project, the largest of its kind in the world and now nearing completion.

In New Zealand we visited the Thermal Region at Rotorua and the famous Glow-Worm Grotto at Waitomo, which is like a glimpse of Fairyland. Unfortunately I was not able to see Mr. and Mrs. Wally Stevens of Wanganui, who had been out in South Africa a short while before and had given interesting talks to the Botanical Society and the Cape Horticultural Society at Kirstenbosch. I was however able to tell him over the telephone from Wellington that I had seen some of his proteas and leucospermums in a local florist shop.

The Botanic Gardens in the cities were our main objective as usual, and very beautiful they were too. In South Island I made a very special point of visiting the Dunedin Botanic Gardens where Miss Bina Martin had done her horticultural training before emigrating to South Africa. We also visited her sister at Lake Manapouri.

We were fortunate, too, in being taken on a motor tour by Miss Betty Gillies, sister of my colleague Mrs. Nan Horrocks. It included a drive over the recently opened section of the Haast Pass, through the dense Western Forest area, and the climax of our trip was a few days spent with her in the magnificent Mt. Cook National Park.

On my return to Cape Town I was met at D. F. Malan Airport by Professor Rycroft, Miss Martin, Mrs. Horrocks, Dr. Lewis and Mr. Middlemost and on arrival at Pearson House found the 'Flags' flying and the 'Red Carpet' down, an appropriate end to what had proved to be a 'Royal Tour', and one which I can recommend without reservation.

MEEGAANDE LEDE

TERUGTREKKING VAN SAADUITDELING

Meegaande Lede word hiermee verwittig dat, volgens 'n besluit van die Raad van die Botaniese Vereniging in 1963, gratis-uitdeling van saad vir hierdie vorm van lidmaatskap gestaak is.

Meegaande Lede sal nog altyd al die geriewe soos in die verlede geniet, naamlik deelname in alle Verenigingvergaderings, vry uitgawe van die jaarlikse Joernaal en vry parkering te Kirstenbosch.

Baie lede het na gewone lidmaatskap oorgeslaan en betaal net R3 jaarliks en ontvang dus 'n toestemming van 15 pakkies saad.

South African Succulents in England

L. E. Newton
Dagenham, Essex, England

The South African flora offers the enthusiast a wealth of succulent plants in a number of botanical families, but the cultivation of these plants in the Northern hemisphere sometimes presents difficulties. Most collectors have all their plants in one greenhouse, even though some species are from winter-rainfall areas and others from summer-rainfall areas. Add to this the fact that the seasons are reversed and that the collection usually includes succulents from several other parts of the world, and it is easy to see that growing succulents in England is not a dull hobby!

Many species settle down to the English way of life without trouble. The stem succulents, chiefly in the genus *Euphorbia* and the Asclepiad genera such as *Stapelia* and *Huernia*, grow well in summer along with the cacti, which are also stem succulents but from the New World. Many leaf succulents in genera such as *Crassula*, *Kalanchoe* (both Crassulaceae) and *Anacampseros* (Portulacaceae) also behave as summer-growers. The succulent Liliaceae, including *Aloe*, *Gasteria* and *Haworthia*, are primarily winter-growers but are usually treated as summer-growers with success. *Aloe aristata* is even winter-hardy in some parts of England. In my garden it has survived several winters with no more protection than a near-by south-facing wall and has flowered in that situation in early summer. The *problem* species are those which insist on growing in our winter, and resting during the period when conditions in their new environment are most favourable for growth. These include several dwarfed leaf succulents in the genus *Crassula* and many of the dwarf or 'stemless' mesembrianthemums. The habit is also characteristic of most of the deciduous plants in such genera as *Othonna* and *Senecio* (Compositae), *Cotyledon* (Crassulaceae), *Pelargonium* and *Sarcocaulon* (Geraniaceae) and *Testudinaria* (Dioscoreaceae).

The majority of English collectors aim at maintaining a minimum night temperature of 40° to 45° F. in winter, and most winter-growing species can be grown successfully in these conditions. Another important factor affecting growth is light. The intensity of our winter light is much lower than that which the plants would receive in habitat. In our greenhouses the winter-growers are usually kept on the highest shelves so that they receive as much light as is available, though they would doubtless appear very spindly if placed alongside their counterparts in the wild. It is odd that while artificial heating is commonplace, artificial lighting is rarely even mentioned in England. Perhaps it is because without the heat the plants would die, whereas they live on in poor light and their atypical growth is accepted as a necessary compromise. Flowering of these plants is also affected considerably by temperature and light intensity. Flower initiation is probably controlled by day-length, but this aspect has not been studied extensively in more than a handful of succulents. Once the flower buds have appeared they usually open, though on cold, dull days they will not always open fully and may not remain open for long. The brighter and warmer days always result in better displays of flowers.

The autumn of 1964 was unusually mild in England, with only a couple of cold spells lasting just three or four days. The winter-growers have responded well to this weather, and the mesembrianthemums in particular have produced a very fine show of flowers. Species of *Lithops*, *Faucaria* and *Conophytum* and several other genera in my collection have provided colour and interest at a time when most plants in the greenhouse are resting. Even on Christmas day the sunshine induced a couple of *Glottiphyllum* species to open their flowers. Many of my mesembryanthemums have been raised from Kirstenbosch seeds and some of the plants flowered last autumn for the first time. It is very satisfying to bring one's own seedlings into flower, and last year's autumn weather has enabled me to gain even greater satisfaction from this fascinating hobby.

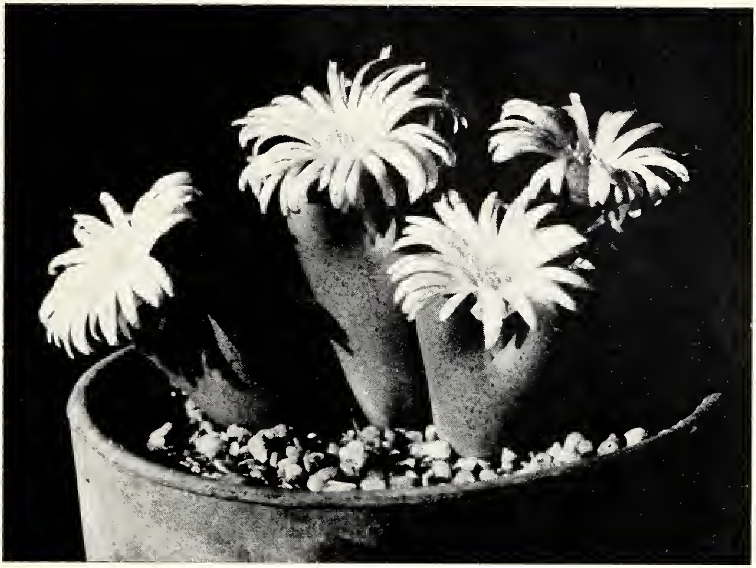

PLATE 6. *Conophytum bilobum.*

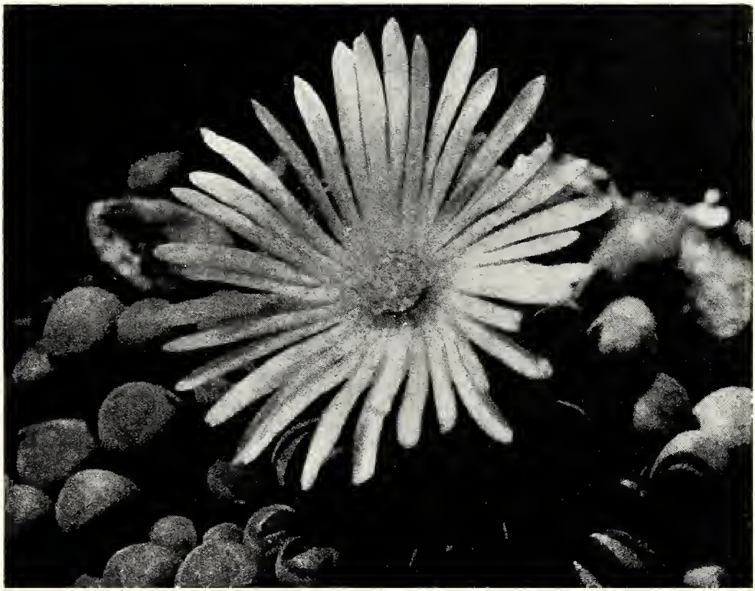

PLATE 7. *Fenestraria rhopalophylla.*

Photos: L. E. Newton

The Melville Koppies Nature Reserve, Johannesburg

ANNABELLE LUCAS
Dept. of Botany, Univ. of the Witwatersrand.

IN the early 1920's, Professor C. E. Moss, first Professor of Botany at the University of the Witwatersrand, began a survey of the vegetation on the Melville koppies, then open land to the north of Johannesburg. The area proved particularly rich in local species and has been used extensively ever since for fieldwork carried out by the University and other educational bodies. The locality has always been a popular one as it is easily accessible, being on a bus route and only 3 miles from the city centre.

With the rapid expansion of Johannesburg in post-war years, the open veld on the Melville koppies became one of the last comprehensive examples of the Witwatersrand flora in the immediate vicinity of the city. This valuable land with its fine view would soon have been completely built up had it not been for a few determined people whose perseverance resulted in the proclamation of the remaining 127 acres as a Nature Reserve in 1959.

Before the area was proclaimed, the wild life had attracted poachers and vandals to such an extent that most of the animals had been exterminated and many trees had been chopped down or badly mutilated. Black wattles were invading the grassland and silver poplars had overrun the streamside vegetation at the western end of the koppies. Regular and damaging fires occurred, most of them deliberately lit. The Reserve is now maintained by the Johannesburg Parks Department under the guidance of the Johannesburg Council for Natural History. Fences have been erected, firebreaks laid out and a ranger appointed. The poplars have been eradicated and other aliens dealt with. Although vandalism has decreased, fires are still started along the boundaries each winter.

Two years ago an attractive lecture hut was built high on the ridge and since then stimulating field-days have been held for various groups interested in wild life. Much enthusiasm was aroused some time ago by the excavation of Iron Age furnaces near the hut. These are the earliest examples of mining on the Witwatersrand.

A nature trail, with items of interest named and numbered, has been laid out over part of the Reserve. Visitors may obtain printed notes on these items which enable them to enjoy the nature trail on their own, although guides are available when required. The Johannesburg Council for Natural History has also published a guide-book in two parts dealing with aspects of the botany, bird life, archaeology and geology of the koppies. Further publications are planned.

The long northern slopes of the Reserve are underlaid with diorite, which has formed a deep red soil. This tends to become sandy near the quartzite ridges which form the higher sections of the koppies. Between the ridges run bands of shale. The bleak southern aspect of the area behind the ridges is in marked contrast to the northern aspect with its abundant vegetation, for most of the plants favour the sunny northern slopes although some are very typical of the colder southern side. The Reserve as a whole is badly infested with termites and harvester ants, which do a great deal of damage, and a survey a few years ago showed a high percentage of parasitism of the seed of the trees and shrubs. This appears true of the herbs as well.

The grassland covering all slopes has *Cynodon dactylon*, *Eragrostis curvula*, *Hyparrhenia hirta*

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Plate 8. *Melville Koppies Nature Reserve. Nature trail leading through woodland (Acacia robusta)*

Photo: H. Friede

Plate 9. *Melville Koppies Nature Reserve. Witstinkhout (Celtis africana) growing on rocky ridge.*

Photo: H. Friede

and *Trachypogon spicatus* among the dominants in the various stages of succession from disturbed veld to sub-climax grassland. One of the rarer grasses growing in the area is *Rendlia altera.* Among the grasses and obscured by them are many herbs with attractive flowers and interesting features. These plants are almost entirely overlooked by the public and are being rapidly annihilated in other districts as building around the city increases. Many of them would make perfect subjects for the rockery; *Pentanisia angustifolia*, *Hypoxis multiceps* and *Sphenostylis angustifolia* being three examples among many.

The veld in the Reserve is at its best in early spring when the grasses are short and most of the herbs are in flower. The geophytes, which start flowering in August before the rains begin (named the 'pre-rain' flora by Professor Moss), are most interesting, producing brilliant colours just when the veld is at its driest and it seems as though nothing will ever turn green again. They are abundant in the Reserve, but are always best in veld which has been burnt during the preceding winter. Monocotyledonae predominate among the first to flower, most Dicotyledonae starting slightly later.

The extensive spring flora merges into the summer flora, and throughout the warm months there is a succession of flowers including the dainty *Gladiolus crassifolius*, the ground orchids, *Eulophia hians* and *Bonatea antennifera*, colourful ipomoeas and many legumes. Of interest to students is the occurrence on the northern slopes of *Clematis brachiata*, *Clematopsis scabiosifolia* and the intergeneric hybrids between these two. During the autumn and early winter months the Compositae, mostly species of helichrysum, brighten the landscape and *Aloe davyana* flowers profusely.

The majority of trees and shrubs flower in spring and are clustered up against the quartzite ridges, forming quite dense thickets in places. In this position they are largely protected from fire and have escaped the extensive damage sustained by other communities, the proteas in particular. From the ridges *Protea caffra* can be seen growing in distinct bands at the junction of quartzite with shale, but most of the present plants are mature specimens. The devastating fires which swept the area before the fencing of the Reserve killed all the young proteas and the survival of the species on the koppies seemed precarious for some time. Fire stimulates the germination of acacia seeds, however, and the *Acacia robusta* thickets below the ridges have increased rapidly following a fire in the vicinity.

All the common trees and shrubs of the Witwatersrand are represented on the Melville koppies, along with some which are not so frequently seen here; *Acokanthera oppositifolia* (Hottentot's poison bush) and *Strychnos pungens* for example. Perhaps the most striking of the trees in the Reserve are the yellow-flowered *Acacia robusta* and *A. caffra* on the northern slopes and *Dombeya rotundifolia*, which grows high up on the ridges and which produces clusters of white flowers in early spring. The well-known *Celtis africana* (witstinkhout) is also found high on the slopes and shows to full advantage along the stream now that the poplars have been eradicated from its banks. *Bequaertiodendron magalismontanum* (stamvrug) and *Ancylobotrys capensis* (wild apricot) are the best known and most frequent species on the exposed tops of the ridges where the plants are often stunted and may have extensive underground organs.

The original vegetation along the stream banks has largely disappeared but it is hoped to reintroduce this gradually. In the meantime, an arboretum devoted to local trees has been established near the stream. This is recovering from the setbacks of a severe winter and should be of great value as relatively little is known about the growth habits of the local flora.

Not only does the vegetation of the Melville Koppies Nature Reserve present intriguing problems for the botanist but the area has become invaluable to the public as a whole. As the only Reserve within the city limits, the assets of this rich veld, with its bird life and archaeological finds, are appreciated more year by year. Every nature lover can find something of interest there and an afternoon on the koppies is always time well spent.

Flower-photography in the Cape Province—1964

—W. S. Strain
New Milton, Hants, England

It all seems a long time ago now. As I write at my home within half a mile of the Hampshire coast, snow lies on the garden, burying snowdrops and early crocuses and other signs of spring. Last night the temperature fell to 17° F., low enough to damage some shrubs already in flower. We got through January and February easily; now we catch it in March. That's English weather!

My first visit to South Africa was in the early months of 1952, when I did a rapid tour including Johannesburg, Pretoria, Durban, the Drakensberg, Knysna and the Garden Route, Caledon and Hermanus and a fortnight in Cape Town. I spent most of two days at Kirstenbosch and enjoyed a kind welcome from Mr. and Mrs. H. Hall. But everyone told me that I had not come at the best season for wild flowers.

So last year I planned to come as early as I could and landed at Cape Town in mid-October. To get at least some slight preparation for the quite unfamiliar flora I studied books by Professor Compton and Mrs. Rice, and Mrs. Kidd; since then I have added the *Flora* by Adamson and Salter and I am now awaiting the arrival of a Marloth. Correspondence with Kirstenbosch led to a most valuable introduction to Mr. S. W. Chater, whose experience as a flower-photographer has been a great help, while his guidance and transport made possible some very enjoyable mountain expeditions.

In my first fortnight at the Cape I spent the greater part of four days at Kirstenbosch. I was delighted with the spring freshness of flowers and foliage and my camera was kept busy. By the way, I use a Zeiss Contraflex with 50 mm. and 85 mm. lenses (and Proxars for close-ups) with Agfacolor CT 18 film. A Weston III meter is used for every shot. These were days of the greatest satisfaction, with most conveniently variable weather (bare, blue skies do not please me), and constant reference to the Office and the usually visible labels supplied the necessary information.

I also went to Stellenbosch and the Paarl Mountain Flower Reserve, joined in two expeditions on the heights above Silvermine and Constantia Nek, and spent four days at various parts of the wonderful coast road to Cape Point.

On 28 October I flew to Port Elizabeth and the next afternoon (unfortunately a wet one) Mr. L. N. Prosser took me round Settlers Park and described his hopes and plans for developing that magnificent site as a Wild Flower Reserve. And through the kindness of a friend I was able to see and admire the splendidly planned and maintained private gardens of that flourishing city and its suburbs.

Thence, with greater independence of transport afforded by a car, I went to Grahamstown and at once enjoyed the hospitable welcome of members of the Albany Horticultural Society, who let me see and photograph interesting plants in their gardens. I was also taken to meet Miss Blackbeard of Scotts Farm and found that we both had known in past years Mrs. Ryder, an eminent English plant-collector who did much to spread the fame of the Cape flora in Britain. At the Albany Herbarium Miss Britten kindly solved my identification problems and showed me her fine collection of succulent and other local plants. Another most enjoyable day was spent at the beautiful farm and garden of Mr. and Mrs. Francis Bowker at Thornkloof.

After a few days at Jeffrey's Bay I set out westwards along the Garden Route (probably setting up a record for slow travel as I kept stopping to examine flowers and photograph them); then during a week at Knysna I made several leisurely expeditions in the forest region, visiting Noetzie, Bracken Hill Falls, Kaffir Kop, Deepwalls, Buffels Nek, Kruis River Valley and Prince Alfred Pass.

My next week was spent at George. At Far Hills I met Mr. and Mrs. Bell and Mr. Nimmo, who took me for a scrambly walk in Kaaimans Kloof and told me as I photographed satyriums the story of Burchell's recorded travels in that country. A resident in George showed me his fine azaleas, beds of lily seedlings and a hedge of large-flowered clematis seedlings in full bloom. To the west of Blanco I visited the farm of Mr. R. Braun, where in the shelter of the Outeniquas many interesting wild flowers flourish. In dazzling sunshine I wandered over the Little Karoo and beyond Oudtshoorn admiring the contrasting splendours of the Swartberg Pass and the Meiringspoort.

Then came a long day's journey (by my standards) past Mossel Bay, Albertinia and Riversdale to Swellendam. I knew I was missing almost everything by keeping on the national road, but for once I had to cover a distance; there was a strong headwind and racing clouds patched the wide landscapes bounded by the Langeberg.

I reached Caledon in late afternoon; the spectacular spring show was over, but the garden itself and the winding paths up the kloof were full of interest and beauty; finer still was the evening drive over Shaw's Pass and past Babylon's Tower across flowery moorland down to the coast at Hermanus. Stormclouds, showers and rainbows made that short journey memorable, and I went twice to Caledon and back along the same road, fascinated by flowers and scenery. Another great attraction at Hermanus is the Fernkloof Reserve where skilled planning has perfectly blended the wild flowery hillside (with its well-chosen resting-places) and the grouped plantings on the lower ground. I felt I was lucky to find the psoralea in full flower and scent, but Mr. Wood was able to show me many plants of great interest and beauty.

Five days later I was at the Harold Porter Reserve at Betty's Bay, where some construction work was in progress near the entrance; but by following the modest guide-posts I found my way, past a fine variety of flowers and the simple memorial, beside the noisy stream filled by recent rain on the mountains above.

Near Hangklip I saw thousands of watsonias and farther on, beside the coast road, the cliffs blazed with berkhcyas. I followed the high road by the Steenbras Dam, out on to Sir Lowry's Pass, down to the levels below and on a fine late afternoon returned to Kirstenbosch.

Spring was turning into summer; the oak leaves were darker; new heaths were in flower; nymphaeas were opening on the pools (an elusive shade of lilac-blue for the colour-film); the sun was hotter and its light more intense, but the shadows were deep and photography more difficult. I spent four more days at Kirstenbosch in early December, taking all the paths I had missed before and extending my range to the Smuts track and the contour path. To my collection of photographs I added cycads and Silver Trees and wild flowers from the upper slopes, appreciating the fact that no barriers divide the garden from the mountain.

My kind friends again allowed me to join their expeditions—above Red Hill and Silvermine and, on my last week-end, up the Karbonkelberg. We climbed in hot, clear sunshine, but over on the western side a swirling mist obstructed our view down the precipice to the sea. As we went back my attention was divided between such miniature beauties as the parastranthus on our stony path and the long views of the Atlantic coastline.

Now back at home, as in recollection I retrace my journeyings in the Cape Province, preparing my 450 slides for illustrating talks to various societies, I think I can better understand and appreciate the great work being done by the Botanical Society through the subsidiary wild flower reserves and in co-operation with scientific institutions. The way has been found to preserve for future generations the privilege of possessing an unrivalled flora.

’n Veldblomtuin in ons Distrik

BESSIE JACOBSZ
Hoërskool Piet Retief, Transvaal. Wenner—J. W. Mathews-wisseltrofee, 1964

Bessie Jacobsz

DIT is met ’n gevoel van trots dat elke Suid-Afrikaner dink aan Kirstenbosch. Vyftig jaar van swoeg en sweet vir ons baanbrekertuiniers is agter die rug en hulle moeite was beslis nie vergeefs nie.

Alhoewel dit reg is dat Kirstenbosch beskou moet word as die tuin van die hele Suid-Afrika, is ek tog die mening toegedaan dat elke dorp of distrik ook ’n eie veldblomtuin moet hê waarin al die aandag net toegespits moet word op die kweking van plante van daardie besondere omgewing.

Die aanlê van ’n veldblomtuin in ons omgewing het in werklikheid ’n dringende noodsaaklikheid geword. Alhoewel die plantegroei van die distrik op die huidige tydstip nog die aanlê van so ’n tuin regverdig, sal dit binne die verloop van ’n aantal jare nie meer die geval wees nie. Baie van ons mooiste plante word deur totale uitroeiing bedreig.

Sekere aalwyne, nl. *Aloe kniphofoides*, *A. minima* en *A. hlangapies*, asook byna al die heide wat in die omtrek groei, groei op weivelde wat jaarliks deur die boere afgebrand word. Dit bring mee dat die plante erg beskadig, indien nie heeltemal vernietig word nie. Ook die proteasoorte wat in die omtrek groei, bereik selde ’n hoogte van hoër as 1½ voet omdat hulle natuurlike groei deur die veldbrande belemmer word. Gedurende die afgelope jaar het ’n nuwe papierfabriek op die dorp in werking getree. Om in die nodige behoeftes te voorsien, word jaarliks baie plantasies aangeplant. Waar plantasies aangeplant word, word die natuurlike plantegroei heeltemal vernietig. Dieselfde geld by Pongola waar suikerrietplantasies aangeplant is.

Die distrik Piet Retief strek vanaf Pongola, waar die kwik tot 110° F. styg, tot by Piet Retief met ’n matige somer- sowel as wintertemperatuur. Die hele distrik het ’n hoë reënval en die grond is byna oral vrugbaar. As daar êrens in die distrik ’n veldblomtuin aangelê word, sal bome, blomme en struike van die lae- sowel as die middelveld met sukses aangeplant kan word.

Daar word nou al gesê dat die nuwe Pongolapoortdam wat tans in aanbou is, een van die land se gewildste binnelandse vakansieoorde gaan word. As dit die geval is, sal die hoofpad vanaf die Witwatersrand en Pretoria deur die distrik gaan. Dit sal meebring dat baie meer toeriste die distrik sal besoek. Alhoewel die omgewing in sy natuurlike staat baie mooi is, sal so ’n tuin net dien as verfraaiing van die distrik. Dit sal ook die aandag van die reisigers opnuut vestig op al die mooi dinge wat die natuur ons bied.

Aan plantemateriaal vir die aanlê van so 'n veldblomtuin ontbreek dit ook nie. Tussen Pongola en Piet Retief groei daar 'n hele aantal wildekiaatbome. Myns insiens is daar baie min uitheemse sierbome wat die wildekiaat in skoonheid kan oortref. Baakhout- sowel as kafferbome kan ook met sukses gekweek word. Albei boomsoorte is maklik om te kweek en is baie mooi.

Pongola is besonder ryk aan mooi bome. Bome soos wildekatjiepiering, vanwykshout, worsbome, kafferbome en huilboerboonbome, om maar net 'n paar te noem, kan met sukses aangeplant word.

Baie min mense, selfs ou inwoners van die distrik is daarvan bewus dat hier alleen tussen twaalf en sestien soorte aalwyne in die veld groei. Die aalwyne alleen regverdig al die aanlê van 'n veldblomtuin.

Die hele distrik Piet Retief is baie ryk aan struikgewasse, byvoorbeeld proteas, wildedagga, impala-lelies, asook 'n paar struikgewasse waarvan die gewone naam onbekend is, nl. *Iboza riparia*, *Dais cotinifolia* en *Bauhinia galpinii*, om net 'n paar te noem. Op Pongola groei die wit sowel as die dieproos impala-lelies. Daar word ook vertel dat hulle selfs 'n geel impala-lelie gedurende die afgelope paar weke gekry het. Dit is egter nog nie bevestig nie.

Hier word ook 'n groot verskeidenheid vetplante en wildeleliesoorte aangetref wat beslis die moeite werd is om te kweek.

Om die nodige plante in die hande te kry, sal geen moeilikheid oplewer nie. Baie mense het al die wens uitgespreek dat so 'n tuin aangelê moet word en sal gretig wees om te help. Dit sal ook meehelp om natuurbewaring te bevorder omdat dit die aandag sal vestig op die bewaring van ons kosbaarste skat, ons plantelewe.

Hier volg nou 'n beskrywing van ses plante wat met sukses gekweek kan word:

TROTS VAN DE KAAP

(*Bauhinia galpinii*)

Die plante kom volop voor in die berge en rante tussen Pongola en Piet Retief.

Dit is 'n struikgewas wat baie bestand is teen droogte en ander natuurrampe.

Gedurende die herfs dra dit trosse ligrooi blomme, gevolg deur bruin peule.

Dit is 'n besondere mooi plant en snoei bevorder die welige groei van die plant.

BARBERTONSE MADELIEFIE

BARBERTON DAISIES

(*Gerbera jamesonii*)

Ongeveer agt myl vanaf Pongola in die rigting van Golela word hulle algemeen aangetref.

Die blomme is heldergeel en word gedra aan stingels tot tien duim lank, wat bedek is met fyn haartjies.

Die omgewing waarin hulle groei is klipperig, by 'n rantjie. Die plante is baie gehard en kan met sukses gekweek word.

Die blare, soos op die skets aangetoon, verskil egter van die madeliefie wat van Barberton afkomstig is. Alhoewel die plant as Barbertonse madeliefie bekend staan, kon niemand vir my sê wat sy botaniese naam is nie.

Digby Piet Retief in die rigting van Commondale word daar pers madeliefies aangetref wat net so mooi is en maklik is om te kweek en in stand te hou.

PROTEAS

In die omgewing word twee proteasoorte aangetref.

Protea gaguedi word nogal op baie koppies in die omtrek van Piet Retief gevind. As die knoppe verskyn, lyk dit soos silwer en is baie mooi. Die blomme is ook baie mooi. Die oop blom is ligroos.

Die plante word erg beskadig deur veldbrande en bereik selde 'n hoogte van 24 duim. Die plante kom voor op klipkoppies en is baie bestand teen droogte en koue.

Die ander soort word aangetref by Paulpietersburg. Die plante lyk baie na *P. pendula*, selfs die blomme, maar die blomme word regop gedra. Ek kon nêrens die botaniese naam van die besondere protea in die hande kry nie.

IMPALA-LELIES

(*Adenium swazicum* en *Pachypodium saundersii*)

Die plante word slegs in die warmer laeveld aangetref.

Die *Adenium swazicum* word aangetref naby Golela. Die plante het 'n gladde groen blaar wat bo-aan 'n kaal, gladde stingel gedra word. Gedurende die somer is die plante oortrek met pragtige, dieproos blomme.

Die *Pachypodium saundersii* kom ook in die warmer dele voor. Die plante is vaalwit met baie dorings en het gladde groen blare. Die plante het gedurende herfs trosse wit blomme bo-aan die stingels. Die *Pachypodium saundersii* groei tussen rotse, met byna geen grond nie en is gehard teen droogte.

Albei soorte groei maklik maar is gevoelig vir ryp. Dit. is ook ideale plante vir 'n veldblomtuin.

HEIDE

(*Erica-soorte*)

In die omgewing word daar drie soorte heide aangetref, nl. *Erica woodii*, *E. cerinthoides* en *E. drakensbergensis*.

Die mees algemene plante is die *E. cerinthoides*. Hulle groei meestal in die berge en rank digby Piet Retief. Die plante groei selde hoër as agt duim.

Die plante blom in die somermaande en die blommetjies is harig, terwyl die kleur wissel van rooi tot byna wit.

Die ander soorte is skaarser en net diegene wat die veld goed ken weet gewoonlik van hulle bestaan.

Daar bestaan 'n moontlikheid dat die pragtige blomme na verloop van 'n paar jaar uitgeroei sal wees. Alhoewel dit moeilik is om die plante te kweek, sal 'n poging tog aangewend moet word vir die behoud van die heide in die omgewing.

AALWYNE

(*Aloe-soorte*)

Die distrik Piet Retief is besonder ryk aan aalwyne. Van ons mooiste aalwyne word hier aangetref.

Gedurende die hele jaar byna is daar aalwyne wat blom, en dit is voorwaar 'n groot aanwins vir enige veldblomtuin.

Hier volg 'n beskrywing van 'n paar soorte wat hier aangetref word:

Aloe hlangapies: Die aalwyn word omtrent net op plase in die onmiddellike omgewing van Piet Retief aangetref, gewoonlik op grasvelde. Die blare is nie baie vlesig nie en is ongeveer een voet hoog. Gedurende Novembermaand blom die aalwyne. 'n Tros appelkooskleurige blommetjies, elk met 'n groen puntjie, word bo-aan 'n stingel van sestien duim gedra. Omdat Piet Retief die plante se oorspronklike groeiplek is, sal dit goed aard in 'n veldblomtuin in die omgewing van Piet Retief.

Aloe suprafoliata: Die blare van die aalwyn is vaalgroen en sonder vlekke met 'n rooibruin puntjie, in 'n digte blaarroset gerangskik. Die aalwyn groei gewoonlik op die kruine van berge en rank in die omgewing. Die plante blom gedurende Mei. Die stingels waaraan die blomme gedra word is ongeveer drie voet hoog. Die blomme is pragtig—dieprooi en elke individuele blommetjie het 'n groen puntjie. Die knoppies is styf teenmekaar gerangskik tot by die puntjie. Jong plantjies se blare is op 'n eienaardige wyse gerangskik—dit lyk na 'n oopgevoude boek. Die aalwyne is besonder mooi en beslis die moeite werd om aan te plant.

Aloe saponaria: Dié aalwyn kom algemeen voor in die distrik. Die blare van die plante is gespikkel en die punte is gewoonlik droog. Die blomme word gedra vanaf Julie tot September aan stingels van ongeveer twee voet hoog wat soms vertak. Die blomme word in trosse bo-aan die stingels gedra en die kleure van die blomme wissel van rooi tot liggeel.

Aloe dewettii: Die plante is mooi stewig en die blare is onreëlmatig gespikkel met 'n dowwe glans. Die plante blom in Maart en die stingels bereik soms 'n hoogte van ses voet. Die blommetjies is dieproos en dit lyk asof dit deur 'n lagie poeier bedek is. Die plante kom in die veld ongeveer 22 myl van Piet Retief af in die rigting van Pongola voor.

Benewens bogenoemde soorte word die volgende soorte ook in die distrik aangetref:

Aloe parvibracteata,
A. kniphofioides,
A. minima,
A. marlothii,
A. vanbaleni,
A. arborescens,

A. bainesii asook 'n kruising tussen *A. marlothii* en *A. arborescens* wat ook pragtig is.

Die plante wat in die artikel beskryf is is met akkurate en kunstige potloodtekeninge geïllustreer en daar was gedroogte eksemplare van sommige van die blomme, blare en/of sade asook foto's van die aalwynsoorte.

OPROEP OM NUWE LEDE

Die Vereniging span alle kragte in om sy ledetal te vergroot ten einde die bykomende fondse te vind wat nodig is vir die uitbreiding en instandhouding van die Nasionale Botaniese Tuine te Kirstenbosch en Worcester en enige ander Tuin wat gestig mag word deur die Trustees van die Nasionale Tuin van Suid-Afrika.

Alle Lede geniet die voorreg van te deel in die gratis-distribusie van oorskotsaad van Kirstenbosch en Worcester. 'n Lys van die beskikbare saadsoorte word jaarliks aan Lede gestuur.

Die hoeveelheid saad wat jaarliks verkry kan word is soos volg:

Weldoeners	50 pakkies
Beskermhere	35 pakkies
Lewenslede	15 pakkies
Korporasielede	35 pakkies
Gesinslede	25 pakkies
Gewone lede	15 pakkies

Aansoeke om saad moet gerig word aan die Direkteur, Nasionale Botaniese Tuin, Kirstenbosch, Nuweland, Kaap.

Die ,,Journal of the Botanical Society", wat jaarliks verskyn, word gratis aan alle Lede gestuur.

A Visit to the Hunt Botanical Library

NORAH G. HENSHILWOOD
Cape Town.

HIGH above Pittsburgh, Pennsylvania, in an aluminium building whose 'penthouse' was specially designed for it, is the Hunt Botanical Library. Here any nature-loving South African might well feel at home if he were privileged, as I was, to be invited to browse. On the walls, among a current exhibition of original flower paintings, there were several by Cythna Letty, well known for her portrayal of South African flowers; yet it was the treasures within the library itself that brought me closest to the feeling of 'home'.

'This "Rare Book Room", said the Director, Dr. George Lawrence, ushering me in, 'is a replica of Mrs. Rachael Hunt's own library in her Pittsburgh home. She herself supervised every detail when it was being arranged.' For me the room recaptured the atmosphere of a morning, sixteen years ago, when Mrs. Hunt had invited me to tea in order that I might look at some of her precious volumes, gathered with loving interest through the years. I had been fascinated by this forceful woman as I listened to the story of how the purchase of an old Herbal, when she was a girl, had started her pursuit of rare botanical books. Though she herself had not studied botany, Mrs. Hunt knew a great deal about books and the making of a beautiful volume. (In this library today there are examples of choice leatherwork that represent her own skill and artistic achievement in book binding.) On that morning long ago, I had asked 'Have you a Marloth?' and was half disappointed and half pleased to know that this South African rarity was not yet on her shelves.

Mrs. Hunt had told me that many people were trying to 'woo' her promise that their university or college should be the future recipients of her collection. A few years ago the library of the 'Carnegie Institute of Technology' gained the prize and Mrs. Hunt was able to make the presentation before she died. This library, collected and designed by herself, was endowed with sufficient means to provide a director and a staff to further the work she began.

'Mrs. Hunt would never buy a book in a language she could not read', said Dr. Lawrence, when I asked what further books they were buying. 'Because of this, we are having to make up leeway in German as she did not know that tongue.'

I repeated my question of sixteen years ago. 'Have you a Marloth?'

'We have', said Dr. Lawrence proudly, as he pulled it out to show me. Beside it were the four volumes of Andrews's *Heaths*, published in the years between 1805 and 1830. The set is described in the catalogue as 'a splendid work with the excessively rare fourth volume'. In 1948 it was valued at £8,000 (R16,000). The original description by the publisher read: 'The drawings taken from Living Plants only, with the appropriate specific character, full description, Native Place of Growth and Time of Flowering of each, in Latin and English. Each figure accompanied by accurate Dissections of the several parts (magnified where necessary) upon which the Specific Distinction has been founded, according to the Linnaeus system. The whole executed by H. C. Andrews, Botanical Painter, Engraver etc. (4 vols). Published by the Author 1802, 1805, 1809, 1830.'

This is indeed a treasure. As I turned the pages, looking briefly at all these varieties of erica, so many of them from the Cape of Good Hope, I wished a South African botanist could be at hand to tell me whether any of these have disappeared from our ken as quite a number seemed unfamiliar in colour and shape.

Every one of our flower books of recent years—with the *Flora Capensis* next to them—was on the shelves in the library behind the 'Rare Book Room'.

Without specialized knowledge it would be easy for the casual visitor to pass by the rarities of this famous collection: consequently, from time to time, exhibitions are arranged to call attention to some of these. Last year original folio volumes of coloured prints by the famous French flower painter, P. J. Redouté, were on view and it was a catalogue of these that led me to ask if I might see some of the volumes.

With unhesitating generosity a librarian fetched folio after folio, placing them within my reach on the long refectory table at one end of the 'Rare Book Room'; and I was left to pore over these treasures for as long as I pleased. Round the walls of this replica of Rachael Hunt's library were the locked cases of rare books; on several small tables were arrangements of fresh flowers and the floor was covered with a carpet, specially woven in France, with an appropriate flower design. No setting could have been more attractive for the study of these lovely books.

A slip of paper in one Redouté volume published in 1829, the *Choix des Belles Fleurs*, stated that this book was bought by Mrs. Hunt in August 1962 for $6,200. The volume had been dedicated by the author to the Princesses Louise and Marie of Orleans. Among the illustrations were many familiar flowers like the plumbago, the *Gladiolus cuspidatus* and some ixias, the striking Green Ixia among them.

Eight of Redouté's original paintings of roses are in the Hunt Library. I was allowed to compare some of these paintings on vellum with the coloured prints taken from them. Lovely as these prints are, and excellent as the reproduction is, there is inevitably a quality in the original painting that is lacking, though, to be honest, this can only be noticed when one looks at them both through a magnifying glass.

For any South African the volume depicting the succulents and the eight volumes of the *Liliacées* recreate the glories of our spring. Almost to the point of monotony comes the phrase: 'Originaire du Cap de Bonne-Espérance.'

The first volume of the series, published in 1802, was dedicated to the 'Citizen Chaptal, Minister of the Interior'. We read the names of well-known botanists who collected the unusual and beautiful flowers of the Cape of Good Hope and brought them to famous gardens in Europe, gardens such as those of Kew, St. Cloud and Malmaison. The Empress Joséphine was one of Redouté's patrons, and it was to her that he dedicated his 1813 volume depicting the Gardens of Malmaison and Navarre. When a bulb of our brunsvigia, the lovely 'Candelabra' flower was first brought to Europe—according to Redouté, by a Dutch sailor who said it came from the central part of Africa—it flowered after lying dormant for twenty years. At once the bulb was acquired by Her Imperial Majesty Joséphine for her garden at Malmaison and Redouté called it the 'Amaryllis Josephinae'.

Gladiolus, amaryllis, ixia, haemanthus, nerine—one could go on enumerating the wonders of our flora displayed in these coloured prints and it is easy to see why they were such exciting discoveries for botanists of an earlier age. The strelitzia, introduced to Kew, was especially admired by all plant-lovers for its singularity of shape and beauty of colouring.

It was not only the strikingly unusual that attracted P. J. Redouté. He painted the *Diasia indifolia*, whose delicate and pale silky flowers, bending on a single stem, contrast so markedly with their firm, iris-type leaves. Of it he wrote: 'I have dedicated this new genre that I describe here to the memory of the Portuguese discoverer, Bartholomew Diaz, who at the close of the 15th Century discovered the Cape of Good Hope and thus helped to extend the field of Natural History.'

Could there be a more striking tribute to this botanical paradise—the Cape of Good Hope?

As I turned to leave the Rachael Hunt Library I glanced back at the beautiful portrait in oils of its creator and felt deep gratitude that her generosity, living after her, had enabled me to explore some of the fine botanical tributes to the beauties of my own country.

The Restoration of the Grave of Christiaan Hendrik Persoon—

'Prince of Mycologists'

C. E. Hugo

National Botanic Gardens of South Africa, Kirstenbosch

In the *Cimetière Le Père La Chaise* there is at the time of writing a grave on which a wellnigh effaced inscription reads:

PERSOO(N)
CHRETIEN HEN(RY)
BOTANISTE
N(E) AU CAP DE BON(NE ESPERANCE)
(DECEDE LE 15 NOVEMBRE 1836)

The letters shown in brackets are barely legible and the grave is in such a state of dilapidation that one would experience the greatest difficulty in deciphering the words—indeed, in finding the very grave itself.

It is naturally a matter for great concern that the grave of one of our most eminent botanists should have fallen into such disrepair, for Persoon is the world-famous mycologist whose work entitles him to permanent recognition, in South Africa espccially.

The father of Christiaan Hendrik Persoon came out to the Cape in 1748 in the service of the Dutch East India Company as a tailor and nine years after his arrival in the Colony married Elisabeth Groenewald of Ida's Valley, Stellenbosch. On 31 December 1762 Christiaan Hendrik was born.

His father decided that he wished his son to be educated in Europe and at the early age of 13 the lad was shipped off to Holland to study theology. He soon found, however, that he was more attracted to the study of medicine and proceeded to the Universities of Leiden and Göttingen where, while he was following this course, he became interested in botany. By the nineties he was already a botanist of note, receiving his doctorate in 1799.

His main work is the *Synopsis fungorum*, which established him as an authority on the classification of fungi. Although his system is no longer used, the principles of his method for the classification system of fungi are still the basis for modern methods.

Dr. A. P. van der Byl wrote of Persoon, 'He is considered the father of systematic Mycology and his descriptions of fungi will ever remain as masterpieces in the annals of Mycology',[1] and C. G. Lloyd, the American authority on fungi, wrote: 'We have always been a sincere admirer of the works of Persoon and considered him not only the "Father of Mycology" but the greatest genius that ever worked on the subject.'[2]

From about 1803 until his death Persoon lived in Paris, for many years in great poverty. However, he continued to correspond with people all over the world and in this way built up

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[1] S. Afr. J. Sci., 1926.

[2] Mycological Notes, 1924.

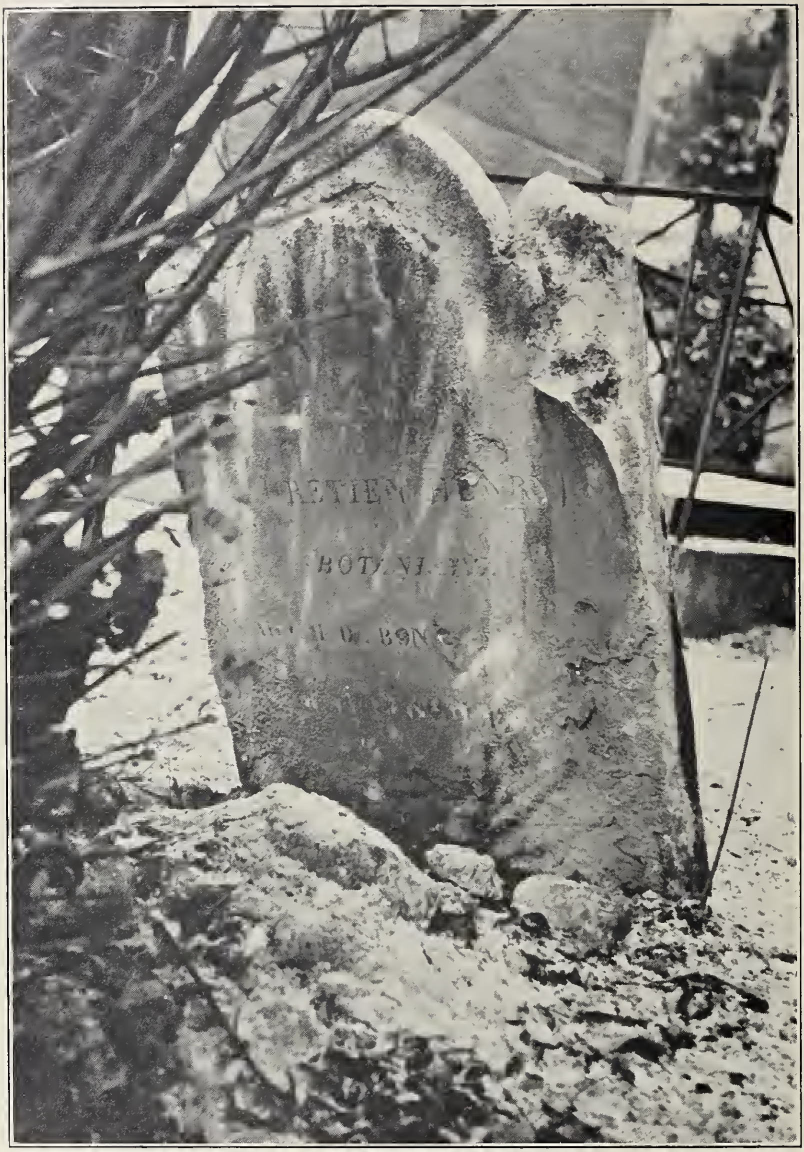

Plate 10 *The grave of Christiaan Hendrik Persoon in* Le Père Lachaise *Cemetery, Paris.* Circa 1938.

Photo reproduced from
Journal of South African Botany, 1938

a marvellous collection of plant specimens. In 1825 he exchanged this collection for an annuity from the government of the Netherlands, which placed its valuable acquisition in the Rijksherbarium at Leiden. It is still there, in excellent condition.

Persoon died in 1836 and was buried in the *Cimetière Le Père La Chaise* in Paris. He had left enough money to cover the cost of his burial and had described in full detail the simple grave, the stone and the inscription he desired for himself. An official from the Netherlands government superintended all the arrangements for the funeral exactly as laid down by Persoon in his will.

In 1962 Mrs. C. Franken of Stellenbosch drew to the attention of the Director of the National Botanic Gardens of South Africa at Kirstenbosch the fact that the grave of Christiaan Hendrik Persoon would be lost to posterity unless something was done to restore it. Some years before, her husband, Prof. J. M. L. Franken, who was at that time Professor of French at the University of Stellenbosch, had written an article for the *Journal of South African Botany*[3] telling of a visit he had made to the grave at the beginning of 1938. He describes it as still intact though very dilapidated and the inscription on the stone as almost defaced.

Many letters were exchanged between Professor Rycroft, Director of Kirstenbosch, and the South African and French embassies about the matter. At the same time the *Conservateur* of the cemetery was approached for permission to restore the grave.

In due course we received a report from the Information Counsellor attached to the South African Embassy in Paris in which he stated that the grave was in an 'appalling condition'. The headstone had sunk into the ground and was barely visible, the grave was overgrown and there was a tree growing from it, and he indicated that urgent attention was needed if the grave was not to be completely destroyed.

There was an additional reason why something should be done without delay, he urged. This section of the ancient cemetery had just been declared a national monument, as it is the oldest and most interesting part. Work on the paths and graves was going on all the time and, if Persoon's grave was to survive this clean-up, it would need to be repaired at once.

We had by this time been informed by the officials in charge of the cemetery that only descendants of Persoon could authorize the restoration of the grave. But were there any? And how did one begin to find out? Persoon himself had never married, but according to the records he had left money to his sister, Mrs. J. M. Storm of Wynberg, Cape. One of Persoon's biographers mentions that the money was still in Paris four years after Persoon's death so it would appear that neither she nor her children had ever claimed it.

Many weeks—and many letters—later we were no nearer to finding any descendants who would be able to avert the threatened destruction of the grave. It was a frustrating and fruitless search, albeit not without its lighter moments, such as that provided by the letter from the man who informed us that we had aroused his curiosity and as a result he was going to do 'a little research' into his family's background. Another correspondent gave us a great deal of information about several people called Storm but reported nothing relevant to our research. We were very grateful to the many kind people who took the trouble to reply to our queries, but we were getting nowhere and the matter was becoming more urgent every week.

And then from the South African Legation in Paris we received a cable which indicated that the Ambassador had persuaded the French officials to grant permission for the grave to be restored. It read: 'Persoon grave not in danger of destruction Stop have informed Curator repairs to be undertaken Stop writing Saleg.' This cable happily concluded an enterprise that had lasted one year and eight months!

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[3] J. S. Afr. Bot., 1938.

We are now able to report that a tender for the restoration of the grave has been accepted and the cost estimated. It seems certain that Persoon's grave will soon be as it was in 1836—simple and dignified as he himself desired it.

Throughout the months while all the above had been taking place many letters had gone out from Kirstenbosch in an endeavour to interest various public-spirited bodies in our project. A reasonable estimate of the cost of restoration was received through the South African Legation in Paris towards the end of 1964. After consultation with the Director of the Simon van der Stel Foundation it was resolved to accept this tender and it is hoped that work on the grave will commence shortly. We feel confident that we shall experience little or no difficulty in raising the sum required to defray the costs of the repair work.

Botanists and scientific institutions concerned with plant life will, we feel sure, want to see the name of our eminent countryman honoured. The way to show our pride in him and his achievements is to assist materially in the restoration of his grave so that it may stand as a lasting memorial to him and his work for science.

APPEAL FOR NEW MEMBERS

The Society is making every effort to increase its membership in order to supplement the funds needed for the development and maintenance of the National Botanic Gardens at Kirstenbosch and Worcester and any other Garden that may be established by the Trustees of the National Botanic Gardens of S.A.

All Members have the privilege of participating in the free distribution of surplus seeds from Kirstenbosch and Worcester. A list of seeds available is sent to Members annually.

The number of seeds obtainable each year is as follows:

Benefactors	50 packets
Patrons	35 packets
Life Members	15 packets
Corporate Members	35 packets
Family Members	25 packets
Ordinary Members	15 packets

Application for seeds should be made to the Director, National Botanic Gardens, Kirstenbosch, Newlands, C.P.

The Journal of the Botanical Society, published annually, is sent free to all Members.

TERMS OF MEMBERSHIP

Benefactors, subscribing not less than R1,000.00 over a period of two years or less.

Patrons, subscribing not less than R200.00 in one payment.

Life Members, subscribing not less than R50.00 in one payment (Not applicable to Municipalities, Societies, etc.).

Corporate Members, subscribing not less than R10.00 per annum.

Family Members, subscribing not less than R5.00 per annum.

Ordinary Members, subscribing not less than R3.00 per annum.

Some South African Bulbs Growing in England

N. G. Hadden
West Porlock, Somerset

A great many bulbous plants that are natives of South Africa are well established in the south-western counties of England. I have been interested in trying various species over the last thirty years and have found that those raised here from seed have generally done better than bulbs which have been imported. We have had several very hard winters which have sadly depleted the more tender species. The winter of 1962–3 was unusually severe; watsonias, dieramas and babianas suffered badly and did not flower at all in 1963 but they have recovered and flowered well in 1964.

Homeria comptoni has been very successful; planted in a cold frame originally, it has sown itself freely in the open and flowers in a variety of shades from pale lemon to rich apricot. The leaves appear in early winter and the flowers in May. *Ixia rouxii* is well established from self-sown seed; I find the wild species of ixia are really better garden plants than the larger and more showy Dutch hybrids as they stand up much better to rough weather and are more hardy. Sparaxis seem to be much less reliable. On the other hand the Dutch hybrid babianas are better doers than wild species, though a very hard winter will injure them.

Schizostylis coccinea in various forms of red and pink establish readily and sow themselves; they like good feeding and should be replanted every few years. A large flowered form of the scarlet type is very good; it came here from the late Miss Stanford many years ago. So far I have never seen a white schizostylis—surely there must be some somewhere? A very pale blush pink form that came from Transvaal seed is the palest I know.

We have had no success with the coloured zantedeschias outdoors and lost those kept in a cold-house in the last severe winter. The lovely peacock irises (moroea) are too delicate to establish in the open and most of the wild Gladiolus species are too tender for us. *G. tristis* however is much more hardy and is only damaged in exceptional winters. *Aristea ecklonis* has persisted for many years and self-sown seedlings often appear near old plants.

The deciduous species of agapanthus are very hardy but evergreen species do not like very hard frosts.

Tritonia rosea does very well and increases rapidly. No lachenalia or freesia has survived a winter here. Most of the kniphofias that I have tried have done well, even the early flowering *K. zululandensis* has been established for a number of years and flowers in early spring.

N. S. Pillans

E. G. H. Oliver
(*Botanical Research Institute, Agricultural Technical Services*)

After a short illness, Neville Stuart Pillans passed away in a Plumstead Nursing Home on 23 March 1964, forty days before his eightieth birthday. He was born at Rosedale, Rosebank, on 2 May 1884, the only son of Eustace Pillans and Mary Porter. He was a cousin of the late Harold Porter, founder of the Botanic Reserve at Betty's Bay.

No account of the events which led to the foundation of the National Botanic Gardens at Kirstenbosch would be complete without a mention of Mr. Pillans. In many ways he was intimately connected with the establishment of both Kirstenbosch and the old Karoo Garden at Whitehill.

Behind the scenes prior to 1913 he worked for a botanic garden to cultivate indigenous plants. In an article in the *Agricultural Journal* of 1910 he wrote: 'This country does not at present possess any public garden which can be considered as exclusively South African in type; nor has it any public garden where preference is given to the indigenous flora, or any serious attempt made to display the wealth of the flora.' He continued: 'The garden now urgently required is one which will supply certain of the present needs of science and horticulture, be the means of widening the scope and facilitating the pursuit of botanical research.'

When asked, Mr. Pillans would recount how he persuaded Professor Pearson to visit the Kirstenbosch site beyond Bishopscourt. Fifty years later he took me to the same spot where they had alighted from the Cape cart and, looking towards the mountain, Pearson had exclaimed: 'This is the place.'

Pillans's love for plants developed from an early age. While still at the Diocesan College he was amassing a large collection of plants which would make him world famous. His father was in the Agricultural Department and also had an interest in plant collecting. Many interested collectors, for example, Harry Bolus and Rudolf Schlechter, came to view his collection of living plants. As a result of Pillans's fine collections, N. E. Brown was able to tackle the difficult Stapeliae for *Flora Capensis* in 1909. White and Sloane in their work, *Stapeliae*, said of Pillans: 'the most eminent collector of Stapeliads in the eventful history of the tribe.'

Mr. Pillans led an unsettled life for many years. His work ranged from Customs clerk to agricultural assistant to farmer and student. In 1911 he spent two years at Cambridge studying for an Agricultural Diploma but because of ill health had to abandon the course right at the end. Eventually Mr. Pillans took up a botanical career when in 1918 he joined the Bolus Herbarium as First Assistant. It was this post which gave him scope for expressing his botanical interests, and he remained with the herbarium until his retirement in 1952.

During these thirty-five years Mr. Pillans added considerably to the study of our flora and to the growing reputation of the Bolus Herbarium. His monographs of Restionaceae, Bruniaceae, Phylica, Agathosma and Metalasia stand as examples of his careful and patient work. After his retirement Kirstenbosch granted him the Smuts Memorial Fellowship for further research. This was followed by a grant from the Council for Scientific and Industrial Research. He was working on the genus Hermannia until, acting on medical advice, he gave up this work two years before his death.

Neville Pillans will always be remembered for his quiet and unassuming ways and for his devotion to 'his children' both in his garden and in the open veld.

BOOK REVIEW

Allan Bird: *More Cape Flowers by a Lady.* South African Natural History Publication Co., 1964. 12 col. ill. R9.00.

In 1849 a book, *Cape Flowers by a Lady*, was published in London. The artist chose to remain anonymous and it was only later that it was established that she was Arabella Roupell who came to the Cape in 1842 and spent two years here. The colour illustrations consisted of a frontispiece and eight other plates.

In addition to the paintings published in 1849 there were others, ten of which have now been reproduced for the first time in the book under review.

Dr. Allan Bird at the beginning of the book, gives the interesting history of the discovery of the unpublished paintings and tells us something about the artist.

Opposite each plate is a written account of the plant illustrated. It is seldom that one sees flower paintings of such excellence and the book deserves a place on the shelves of every flower-lover and collector of Africana.

It is obvious that Allan Bird did not consult a botanist to ensure the correctness of the botanical names: there are as many errors as there are pages of text. The worst is perhaps in the case of *Watsonia marginata* where the written account is correct but the illustration is of a different species, *W. pyramidata.*

This volume gives us reproductions of paintings the like of which we have not seen for a long time and for this alone it is definitely a collector's piece.

H. B. Rycroft

THE BOTANICAL SOCIETY OF SOUTH AFRICA

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER 1964

The Council of the Botanical Society of South Africa has pleasure in presenting its fifty-first annual report for the year ending December 1964.

MEMBERSHIP

New membership during the year totalled 764, comprising: 1 Patron, 3 Life, 16 Corporate, 118 Family, 595 Ordinary, 31 Associate. Through death, resignations and removal of names of members whose subscriptions were unpaid, 103 members were lost. The total membership has now reached 5,137, giving a net gain of 661 members.

FINANCIAL

Subscriptions received R11,470.48, which includes Corporate R548.06, Family R2,371.30, Ordinary R7,801.19, Associate R749.93, Patron R200.00, Life Membership R240.00, other sources of income R1,511.41. Expenditure was R4,587.74 (which includes the cost of two Journals, 1963 and 1964) plus Depreciation of machines and Transfer to General Reserve Fund amounting to R95.48, leaving a surplus of R8,278.67, which constitutes the grant to the Trustees of the National Botanic Gardens in respect of the year 1964.

'This has been a most successful year and we have been fortunate in the services rendered by Miss Jean Harvey, who has settled down in her new duties as Secretary/Treasurer, after completing her first year with the Society.'—Chairman.

Sincere appreciation is expressed to the Treasurer of the Gardens, Miss S. Olivier, for introducing the Kalamazoo Book-keeping System, which has proved most successful in saving time and labour.

BOTANICAL SOCIETY STUDY GROUP

A new feature was introduced in June this year in the form of the Botanical Study and Discussion Group. The object in forming this Group was to provide instruction for members interested in the identification and history of the various species. The first excursion was conducted by Professor W. J. Lutjeharms in the Kirstenbosch Woods and the subject was 'Fungi'. Despite inclement weather, at least 50 members attended this excursion which was followed up by a lecture at the University on the following Monday evening.

The second excursion was held at Betty's Bay in September on 'The Classification and Biology of Heath and its Allies' led by Mr. E. G. H. Oliver and proved an outstanding success.

MEETINGS OF THE SOCIETY

In addition to the scheduled programme for the year, we have been most fortunate in having had 3 additional meetings. Mr. W. R. Stevens of Wanganui, New Zealand, gave us a most interesting talk on 'Growing South African plants in New Zealand' on 5 May.

On 17 November, Mr. John Lavranos of Johannesburg, an authority on succulents, gave an appreciative audience an illustrated talk on 'Aloes and other Succulents of Arabia'.

Professor H. B. Rycroft, on his return from visiting eleven countries of the world, shared his 'Botanical and other experiences behind the Iron Curtain' in the Science Lecture Hall at the University of Cape Town on 24 November. This was exceptionally interesting and was attended by a large number of members.

11 *January*—Special Gathering for Visiting Members on the Lawn, Kirstenbosch. Visitors included a member from England and members from Bulawayo. The President of the Society, Mr. Dudley D'Ewes, introduced the new Secretary/Treasurer, to those present.

18 *February*—Lecture Hall, Kirstenbosch. Mr. Bertil Nordenstam, shortly before his departure for Sweden, gave a very interesting talk entitled 'My Research work on Compositae in S.A. with special reference to Othonna', which was illustrated with colour slides.

17 *March*—Lecture Hall, Kirstenbosch. Annual General Meeting, after which Mr. and Mrs. P. A. Sargeant gave much pleasure to those present by giving an illustrated account of 'Cape Wild Flowers through the Four Seasons'.

14 *April*—Lecture Hall, Kirstenbosch. A most enjoyable evening was spent when Mr. E. G. H. Oliver gave a talk on 'Ericas', which was illustrated with colour slides taken by Mr. S. W. Chater.

9 *June*—Lecture Hall, Kirstenbosch. Mrs. P. A. Bean entertained members with 'Some Highlights of the Jubilee Botanical Tour', illustrated with colour slides by Botanists who accompanied the tourists.

22 *August*—Visit to the Harold Porter Reserve, Betty's Bay. Members were taken on a tour of the reserve by the Curator, Mr. W. Topper. Mrs. W. Topper and several ladies resident in Betty's Bay kindly served tea and home-made cakes to those present.

26 *and* 27 *September*—Wild Flower Show, Lecture Hall, Kirstenbosch, which was most successful and details are given in the Wild Flowers Protection Section Annual Report.

29 *September*—Members viewed the Karoo Garden, Worcester in its spring beauty and were able to appreciate the progress being made in this Garden under the Curatorship of Mr. F. C. Stayner. The Deputy-Mayor of Worcester addressed the gathering, after which tea was served by Mrs. F. Stayner and lady helpers.

3 *October*—Annual Gathering of Members—The Lawn, Kirstenbosch. In ideal weather, the Director of the Gardens, Professor H. B. Rycroft, gave members a detailed account of the work being done at Kirstenbosch and of future development plans. An announcement was made of the winner of the J. W. Mathews Trophy Competition, Miss Bessie Jacobsz of Piet Retief Hoërskool. Miss Anne Hoehn of Kalk Bay was presented with a Consolation Prize.

10 *October*—Mrs. H. A. Fagan was our kind hostess when we visited her beautiful indigenous garden in Bishopscourt, Claremont.

JOURNAL OF THE BOTANICAL SOCIETY

Part 50 was published in October. It is hoped that we shall be able to publish this during the first half of the year in future in order to have the Annual Report for the year brought more up to date.

OFFICE BEARERS

As elected at the Annual General Meeting of the Society in March, 1964:

President: Mr. Dudley R. D'Ewes.

Vice-Presidents: Professor H. B. Rycroft, Professor R. H. Compton, Mr. C. J. Sibbett.

COUNCIL

Mr. M. G. Botha,
Mr. M. Clough,
Dr. W. P. U. Jackson,
Dr. G. J. Lewis,
Mr. W. J. Middelmann,
Dr. E. A. Schelpe,
Captain M. F. Stern,
Dr. G. J. Broekhuysen,
Mr. L. J. Hill,
Miss M. E. Johns,
Prof. W. J. Lutjeharms,
Mr. F. C. Sawkins,
Miss E. L. Stephens,
Mr. H. A. van Hoogstraten.

THANKS

Our gratitude is recorded for the voluntary assistance given so loyally in the Botanical Society Office by Mrs. Anne MacKenzie and Mr. F. C. Sawkins. Thanks are also given to Mrs. P. Campbell for her part-time assistance in the office and for her helpful co-operation, to the Staff, National Botanic Gardens and to Mr. and Mrs. Fall of the Kirstenbosch Tea House.

MILTON CLOUGH, *Chairman.*
(MISS) J. HARVEY, *Secretary/Treasurer.*

REMEMBER MEMBERS!

KIRSTENBOSCH GROWS ON YOUR SUBSCRIPTIONS!

WILD FLOWERS PROTECTION SECTION COMMITTEE

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER 1964

INCOME FOR THE YEAR

Balance as at 1/1/64: R3,235.75, Subscriptions received R1,042.70, Grants from Provincial Administration R600.00, Profit on Wild Flower Show R74.69, Interest received R83.99, Adjustment re 1963 Subscriptions (incorrectly credited to General Administration expenses) R52.36, Total R5,089.49. Total amount in investments (with accrued interest) R2,986.31, Cash in Bank at call R1,203.80, Cash on hand R20.94, Amount due from General Account R185.95, Total value of equipment R1,128.40, less Aggregate Depreciation R624.40.

WILD FLOWER SHOW—26 and 27 September

Dr. M. R. Levyns of Rondebosch, was our guest of honour and performed the official opening of the Show. There were numerous exhibits and Dr. Levyns paid tribute to their high standard. Sincere gratitude is extended to all members who entered exhibits, thus contributing to the outstanding success of our Show.

An innovation in this year's Show was the presentation of the Wyn Hall Memorial Medal, an award in honour of the former Secretary/Treasurer. It was presented this year to the exhibitor gaining the highest points.

An interesting suggestion has been put forward by a member of this Section that future prize-winning exhibits be flown to Kew Gardens. The Chairman has agreed to explore this possibility.

EXHIBITION OF WILD FLOWER PAINTINGS—24 June—9 July

An exhibition of Wild Flower Paintings by Emily Thwaites was held in the Lecture Hall, Kirstenbosch. Miss Inanda Lindley, of Claremont, who generously donated these paintings to the National Botanic Gardens, Kirstenbosch, was present at the opening officiated by Mr. E. H. Nellmapius.

ADVISORY COMMITTEE FOR NATURE CONSERVATION

Professor H. B. Rycroft represented the Wild Flowers Protection Section Committee at the meeting which was held in Robertson in November.

The following recommendations submitted to this Committee were accepted:

Sale of Disa Plants

Recommended that the sale of Disa Plants be prohibited except plants raised from seed in pots. It was resolved that only nurserymen who cultivate the plants from seeds may be allowed to sell them.

Watsonias and hybrids

All species with the exception of all white forms and *Watsonia pyramidata*, to be included on the protected list.

Lachanalias

All species to be included on the protected list.

Protea species

All species of Protea to be protected.

Purchase of Unprotected Wild Flowers

Suggested amendment to Ordinance:

'No person shall buy any unprotected wild flower if the sale thereof is in contravention of the ordinance' and it was resolved that no person be allowed to buy wild flowers from any person on the side of the road.

OFFICE-BEARERS

The following members were elected to this Committee:

Professor H. B. Rycroft,	Miss M. E. Johns,
Mr. W. J. Middelmann,	Mr. F. C. Sawkins,
Mrs. A. MacKenzie,	Mr. E. G. H. Oliver.

Professor Rycroft was re-elected Chairman at the first meeting of the Committee.

THANKS

Sincere appreciation is recorded to the Cape Provincial Administration for its co-operation and to the Daily Press.

H. B. Rycroft, *Chairman.*
(Miss) J. Harvey, *Secretary.*

BESOEKERS AAN DIE KAAP!

Gedurende die somermaande waai die suidoostewind nooit by Kirstenbosch nie!

INCOME AND EXPENDITURE ACCOUNT FOR THE TWELVE MONTHS ENDED 31 DECEMBER 1964

		R c
General Administration Expenses		685.67
Audit Fees 1964		73.50
Honorarium to Secretary-Treasurer		1,405.64
Bank Charges		121.00
Stationery and Printing		410.57
Expenses—Transvaal Branch		69.60
Journal No. 49:		982.99
Cost to date including printing, dispatching etc.	1,182.99	
Less: Amount received from Advertisements	200.00	
Journal No. 50:		858.77
Cost to date including printing, dispatching, etc.	987.27	
Less: Amount received from Advertisements	128.50	
Depreciation—Addressograph		27.50
Depreciation—Adding Machine		7.30
Tranfers to General Reserve		60.68
Surplus for the year		8,278.67
		R12,981.89

	R c	R c
Subscriptions:		11,470.48
Family Members	2,371.30	
Ordinary Members	7,801.19	
Associate Members	749.93	
Corporate Members	548.06	
Donations		728.46
Interest on Investments		733.33
Amount recovered re Journal No. 48		49.62
		R12,981.89

WILD FLOWERS OF THE CAPE OF GOOD HOPE

BOOK FUND TRUST ACCOUNT

	R c
Stock of Books on hand 1/1/1964	5,946.16
Audit Fees	21.00
Bank Charges	1.05
Surplus	164.10
	R6,132.31

	R c
Sundry Income	757.00
Stock of Books on hand 31/12/1964	5,375.31
	R6,132.31

BALANCE SHEET AS AT 31 DECEMBER 1964

	R c	R c
Accumulated Funds:		5,596.01
Balance 1/1/1964	6,133.91	
Add: Surplus as above	164.10	
	6,298.01	
Less: Transfer to National Botanical Gardens	702.00	
		R5,596.01

		R c
Stock of BOOKS ON HAND—as per Treasurer's valuation		5,375.31
Post Office Savings Bank:		
Savings Account No. S 5660 at $3\frac{1}{2}\%$ p.a.		151.07
Cash:		
Current Account at Standard Bank of S.A. Ltd.	87.33	
On hand	3.30	
	9063	
Less: Liabilities	21.00	
		R5,596.01

AUDITORS' REPORT

We have to report that we have examined the attached Balance Sheet as at 31/12/1964 with the books and vouchers of the Society, and have obtained all the information and explanations we have required. We are satisfied that the Securities are in existence and that the Society has kept proper books and accounts.

We are of opinion that such Balance Sheet is properly drawn up so as to exhibit a true and fair view of the state of the Society's affairs at the date thereof, according to the best of our knowledge and the explanations given to us, and as shown by the books of the Society.

CAPE TOWN
24 *February* 1965

R. M. JOUBERT & CO.
Chartered Accountants (S.A.) *Auditors*

THE BOTANICAL SOCIETY

BALANCE SHEET AS AT

		R c	R c
Life Membership Fund			12,180.44
Balance 1/1/1964		11,740.44	
Add: Amount received during 1964		440.00	
Reserve Fund			789.71
Mrs. W. Hall Memorial Fund			191.75
Subscriptions Paid in Advance			34.00
National Botanical Gardens			8,278.67
			21,474.57
Wild Flower Protection Section			4,796.28
Balance as at 1/1/1964		3,235.75	
Subscriptions—ordinary—received during 1964		1,042.70	
Grants from Provincial Administration		600.00	
Profit on Wild Flower Show		74.69	
Interest received during 1964		83.99	
Adjustment re 1963 Subscriptions incorrectly credited to General Administration expenses		52.36	
		5,089.49	
Less: 5% of 1964 Subscriptions credited to General Administration expenses	52.36		
Salaries	141.00		
Stationery, postages, travelling expenses, bank charges, insurances etc.	44.27		
Depreciation of Equipment at 6% p.a.	55.58		
		293.21	
			R26,270.85

Referred to in our Report of even date.
CAPE TOWN
24 *February* 1965

OF SOUTH AFRICA

31 DECEMBER 1964

	R c	R c	R c
Investments:			
Cape of Good Hope Savings Bank			
Savings Account No. 52773 at 4% p.a.			2,524.03
Post Office Savings Bank			
Savings Account No. 5803 at 3½% p.a.			223.41
United Building Society			5,733.23
Fixed Deposit No. C 41856 with accrued interest at 4½% p.a.		789.71	
Savings Account No. 536 at 3% p.a.		4,943.52	
S.A. Permanent Building Society			4,428.56
Fixed Deposit No. 9836 with accrued interest at 4½% p.a.		1,563.80	
Fixed Deposit No. 11135 with accrued interest at 4% p.a.		2,864.76	
Trust Bank of Africa Ltd.			7,368.78
Savings Account No. 24112 at 4% p.a.		5,313.78	
Fixed Deposit No. 6583 with accrued interest at 5½% p.a.		2,055.00	
Cash			778.74
Current Account with Standard Bank of S.A. Ltd.		1,038.19	
Less: Amount due to Wild Flower Protection Section	185.95		
Liabilities	73.50		
		259.45	
Amount Due From Wild Flower Protection Section			104.72
Addressograph			247.50
Balance 1/1/1964		275.00	
Less: Depreciation written off		27.50	
Adding Machine			65.60
Balance 1/1/1964		72.90	
Less: Depreciation written off		7.30	
			R21,474.57
Wild Flower Protection Section			4,796.28
Investments			
Trust Bank of Africa Ltd.			
Savings Account No. S 34077 at 4% p.a.		1,520.87	
Fixed Deposit No. 1144 with accrued interest at 6% p.a.		502.61	
Fixed Deposit No. 9823 with accrued interest at 5½% p.a.		962.83	
Cash:			
Current Account at Standard Bank of S.A. Ltd.		1,203.80	
On hand		20.94	
Amount due from General Account		185.95	
Equipment:			
Film Projector, Screen etc.—cost	802.40		
Duplicator—Cost	326.00		
	1,128.40		
Less: Aggregate Depreciation	624.40		
		504.00	
		4,901.00	
Less: Amount due to General Account		104.72	
			R26,270.85

R. M. JOUBERT & CO.
Chartered Accountants (S.A.) *Auditors*

PUBLICATIONS ON SALE AT KIRSTENBOSCH

The following may be obtained by application, enclosing payment, to the Secretary, The Botanical Society of South Africa, Kirstenbosch, Newlands, C.P., South Africa. Prices include postage.

'The Species of Oxalis occurring in the Cape Peninsula and how to distinguish them'; T. M. Salter	10c
'General Hints on Raising Indigenous Plants from Seed'; H. F. Werner	10c
'South African Proteaceae and their Cultivation'; H. F. Werner	10c
'Progress in the Study of the Silver Tree Disease'; D. Olivier	10c
'Pelargonium—A South African Contribution to World Gardens'; F. M. Leighton	10c
'The Propagation of Succulents from Seeds and Cuttings'; H. Hall	10c
'Growing Proteaceae in the Summer-rainfall Area'; M. M. Vogts	10c
'Seaweeds'; W. E. Isaac	10c
'Some South African Biennials and near-Biennials and their Cultivation'; H. F. Werner	10c
'Some South African Herbaceous Perennials and their Cultivation'; H. F. Werner	10c
'Plant Names and their Origin'; M. R. Levyns;	10c
'Propagation and Cultivation of Proteas and Heaths'; H. F. Werner	10c
'Suid-Afrikaanse Proteaceae en hul Teelt'; H. F. Werner	10c
'Plants of Land and Sea'; W. E. Isaac	10c
'Growing Cape Bulbs in the Summer Rainfall Area'; Sima Eliovson	10c
'Algemene Wenke oor die Kweek van Inheemse Plante van Saad'; H. F. Werner	10c
'Notes on some rare Stapelias from Namaqualand'; H. Hall	10c
'Birds of the National Botanic Gardens of South Africa'	10c
'Gasteria—A Problem Genus of South African Succulent Plants'	10c
'South African Epiphytic Orchids'; E. A. C. L. E. Schelpe	10c
'Some Cultural Notes on *Disa uniflora*' G. M. L. Feinauer	10c

The following may be obtained on application to The Director, National Botanic Gardens of South Africa, Kirstenbosch, Newlands, C.P.:

JOURNAL OF SOUTH AFRICAN BOTANY, from Volume XVI onwards, each volume in four quarterly parts. R5.00 per volume, R1.50 per part. (To members of the Botanical Society of South Africa R4.00 and R1.00.)

Reprints of articles published in the *Journal of S.A. Botany* (each)	10c

SUPPLEMENTARY VOLUMES TO THE JOURNAL

I—Genus Oxalis in South Africa; T. M. Salter	Out of print
II—Genus Muraltia; M. R. Levyns	R3.50
III—Genus Babiana; G. J. Lewis	R3.00
IV—Genus Agapanthus L'Heritier; F. M. Isaac	R3.00
V—South African Species of Eulophia; A. V. Hall	R3.00

ANNUAL REPORTS OF THE NATIONAL BOTANIC GARDENS OF SOUTH AFRICA, 1913 onwards (each)	10c

THE BOTANICAL SOCIETY OF SOUTH AFRICA

OBJECTS:

1. The promotion of the interests of the National Botanic Gardens of South Africa established under the Trustees of the National Botanic Gardens of South Africa.
2. The preservation of the native flora of South Africa. The Society therefore endeavours:
    - (*a*) To encourage the people of South Africa and other countries in the progress and development of the National Botanic Gardens of South Africa at Kirstenbosch, and any other Garden that may be established by the Trustees of the said National Botanic Gardens of South Africa.
    - (*b*) To augment the Government and other grants towards developing, improving and maintaining the National Botanic Gardens of South Africa at Kirstenbosch and any Garden referred to in the preceding subsection.
    - (*c*) To organize shows at which may be displayed the results of botanical experiments of cultural skill in improving the different varieties of South African flora.
    - (*d*) To enlighten and instruct on botanical subjects by means of meetings, lectures and conferences and by the distribution of literature.
    - (*e*) To promote the preservation of the native flora of South Africa, to encourage public interest in it, and to co-operate with the Public Authorities and others in the attainment of this object.

FOUNDED 10 JUNE 1913

President: Mr. DUDLEY R. D'EWES
Vice-Presidents: Mr. C. J. SIBBETT; Professor R. H. COMPTON; Professor H. B. RYCROFT
Chairman of Council: Mr. MILTON CLOUGH
Secretary and Treasurer: Miss J. HARVEY

Council:

Mr. M. G. Botha
Dr. G. J. Broekhuysen
Mr. M. Clough
Mr. L. J. Hill
Mr. H. A. van Hoogstraten
Dr. W. P. U. Jackson
Miss M. E. Johns
Dr. G. J. Lewis
Prof. W. J. Lutjeharms
Mr. W. J. Middelmann
Mr. F. C. Sawkins
Miss E. L. Stephens
Capt. M. F. Stern
Dr. E. A. Schelpe
Prof. H. B. Rycroft

Terms of Membership:

Benefactors, subscribing not less than R1,000 over a period of two years or less.

Patrons, subscribing not less than R200 in one payment.

Life Members, subscribing not less than R50 in one payment. (Not open to municipalities, societies, etc.).

(Life Membership is open to Family and Ordinary Members of twenty years' standing for one payment of R20.)

Corporate Members, subscribing not less than R10 per annum.

Family Members, subscribing not less than R5 per annum.

Ordinary Members, subscribing not less than R3 per annum.

Associate Members, subscribing not less than R1 per annum and being resident in the Republic of South Africa, S.W.A., Rhodesia, British Protectorates and African Territories only.

Associate Members enjoy all the privileges of Membership, except that they do not vote at any of the Society's Meetings and are not entitled to share in the free distribution of seed.

Honorary Members may be elected at a Meeting of the Society on the nomination of the Council.

All members except associate members have the privilege of sharing in the free distribution of surplus seeds from Kirstenbosch and Worcester, on application to the Director of the Gardens. The Journal of the Botanical Society, published annually, is sent free to every Member. The Journal of South African Botany can be purchased by Members at reduced rates.

Members who wish to support the Wild Flower Protection Section of the Society may give an annual subscription of 50c per annum in addition to the subscription for the class to which they belong. Those wishing to become Members of the Society are invited to communicate with the Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, C.P.

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PART 52, 1966

JOURNAL OF THE BOTANICAL SOCIETY OF SOUTH AFRICA

JAARBLAD VAN DIE BOTANIESE VERENIGING VAN SUID-AFRIKA

DEEL 52, 1966

As syfers kon praat, sou SAAMBOU se state duisende warm en innige verhale uit die lewe self vertel. Agter die koue taal van munt, beleggings en lenings, staan iemand se strewe, se hoop, se drome; die ambisies en trotse vervulling. Want SAAMBOU se sake is mense. Mense met groot planne en eerlike sweet op hul voorhoof. Mense wat laatnag nog lig brand. Mense wat moue oprol. Kinders op skoolbanke. Gesinne in die kaggelkring. Oumense in die goue najaar van die lewe. Miskien is dit omdat SAAMBOU bewus is van die diepste morele waardes en strewe van die mens dat hyself gegroei het van 'n menslike idee tot die sesde grootste bouvereniging in net 24 jaar.

WAAR MENS TUIS VOEL

Saambou
(PERMANENTE)
BOUVERENIGING

VZ&R1065A

Professor H. B. Rycroft and Mrs. J. Pare holding the wreath of South African wild flowers grown at Kirstenbosch made by Mrs. Pare which Professor Rycroft laid on the restored grave of Christian Hendrik Persoon, the "Father of Mycology", at a ceremony in the Cemetery Le Pere La Chaise, Paris in July, 1966.

JOURNAL of the Botanical Society of South Africa
JAARBLAD van die Botaniese Vereniging van Suid-Afrika

PART 52
1966

Editor:
H. B. RYCROFT,
M.SC. (S.AF.), B.SC. FOR. (STELL.), PH.D. (CAPE TOWN), F.L.S., F.R.S.S.AF., HON. F. INST. P.A. (S.A.),
Director of the National Botanic Gardens of South Africa, Kirstenbosch, Harold Pearson-Professor of Botany in the University of Cape Town.

Redakteur:
H. B. RYCROFT,
M.SC. (S.AF.), B.SC. FOR. (STELL.), PH.D. (KAAPSTAD), F.LS., F.R.S.S.AF., HON. F. INST. P.A. (S.A.),
Direkteur van die Nasionale Botaniese Tuine van Suid-Afrika, Kirstenbosch, Harold Pearson-professor in Plantkunde aan die Universiteit van Kaapstad.

DEEL 52
1966

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Cover/Omslag:
Erica mammosa –*Photograph/Foto: Prof. H. B. Rycroft*

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NEWS AND NOTES

Contributed by the Editor,
Miss Jean Harvey and Mrs. C. E. Hugo

NUUSBROKKIES

Bygedra deur die Redakteur,
Mej. Jean Harvey en Mev. C. E. Hugo

PEDESTRIAN BRIDGE AT BETTY'S BAY

Members will be interested to know that a pedestrian bridge has now been constructed across the river at the Harold Porter Botanic Reserve at Betty's Bay. The bridge is situated at the confluence of the Leopard Gorge and Disa Kloof Streams. It is of solid construction and will make access between the Reserve and Disa Kloof very easy. The generosity of Mrs. O. M. Porter and Mr. Arthur Porter made it a reality and to both of them we are deeply grateful.

The bridge will bear the name "The Olive May Porter Bridge".

DISA GROTTO AT KIRSTENBOSCH

Until a few years ago the Red Disa (*Disa uniflora*) had never been very successfully cultivated at Kirstenbosch but through determined efforts, mainly by Mr. Gerald Feinauer, one of the Senior Horticulturists, hundreds of plants are now raised annually from seed and the flowers which bloom in mid-summer (which is usually the "dull" season at Kirstenbosch) give pleasure to thousands of visitors.

Our latest idea for development is the construction on a grand scale of a Disa Grotto in the Gardens in which this beautiful ground orchid can be seen flowering in all its glory.

It is an ambitious scheme, one that will require substantial funds, but one which in my opinion is worthwhile and will be appreciated by all our visitors.

Plans have not been completed but the general idea is to create at least two impressive waterfalls, cascading streams and pleasant pools. Rustic bridges will span the streams and the Red Disas growing on the moist rocky cliffs (which of course will have to be constructed) will be close enough to see but just out of reach of itchy fingers!

Where or how we shall find the funds I do not know at present, but with determination and perseverance I am confident that we shall find them. I am equally convinced that such a development will be worthy of the dignity and renown of Kirstenbosch.

PROTEAS FROM CUTTINGS

The more one studies Proteas the more one realises how variable many of the species are. Some forms are most attractive horticulturally whereas other forms of the same species would not be worth growing in a small garden. Seeds from the more desirable types do not always produce flowers exactly similar to the mother plant, whereas cuttings would develop into plants with all the characteristics of the parent.

VOETGANGERBRUG—BETTYSBAAI

Graag deel ons lede mee dat 'n voetgangerbrug onlangs voltooi is oor die rivier by die Botaniese Reservaat Harold Porter, Bettysbaai, waar die twee strome uit Disakloof en Luipaardskloof ontmoet. Hierdie soliede brug verbind nou die reservaat met Disakloof. Die brug is deur mev. O. M. Porter en haar seun mnr. Arthur Porter gefinansier, en sal die *Oliver May Porter-brug* genoem word.

BEOOGDE DISA-UITLEG—KIRSTENBOSCH

Tot 'n paar jaar gelede was dit onmoontlik om die Rooidisa (*Disa uniflora*) suksesvol op Kirstenbosch te kweek. Maar deur volgehoue pogings, veral deur mnr. Gerald Feinauer, een van die Senior Tuinboukundiges, word daar tans jaarliks honderde plante van saad gekweek.

Disas blom in die middel van die somer (gewoonlik 'n baie „oninteressante" tydperk op Kirstenbosch) en word nou deur duisende besoekers bewonder.

Die jongste uitbreiding wat ons beoog is die konstruksie van 'n grootse Disa-uitleg in die Tuine waar hierdie pragtige grondorgideë in volle glorie kan blom vir almal om te sien.

Hierdie is 'n ambisieuse skema wat 'n aansienlike bedrag sal kos. Maar na ons mening die moeite werd en sal deur al ons besoekers waardeer word.

Die ontwerp is nog onvoltooi maar ons beoog die konstruksie van ten minste twee indrukwekkende watervalle, kabbelende strome en mooi poele. Daar sal houtbruggies oor die strome wees en Rooidisas teen die kranse (wat natuurlik gebou moet word). Die Disas sal naby genoeg wees om te sien maar net buite bereik van lang vingers!

Waar of hoe fondse vandaan sal kom weet ons nog nie maar met vasberade volharding is ons seker dat ons dit sal vind. Dit is net so seker dat so 'n uitbreiding aan die waardigheid en beroemdheid van Kirstenbosch sal voldoen.

PROTEAS VAN STEGGIES

Hoe meer Proteas bestudeer word des te meer besef mens hoe wisselend baie van die spesies is. Sommige plante is tuinboukundig baie aantreklik terwyl dit nie die moeite werd sal wees om 'n ander plant van dieselfde spesies in 'n klein tuin te plant nie. Saad van die meer gesogte soorte produseer nie altyd dieselfde blomme as die moederplant nie maar ons vind dat plante wat van steggies gekweek is alle karaktereienskappe van die ouerplant toon.

Mr. Wim Topper, Curator of the Harold Porter Botanic Reserve at Betty's Bay, has taken a particular interest in the vegetative propagation of Proteas and other members of the same family.

Rooting takes place under a periodic spray of minute moisture particles and he has developed a most ingenious technique of regulating the periodicity of the moisture application correlated with the evaporative capacity of the atmosphere.

Mr. Topper has studied the subject very carefully and his efforts are meeting with significant success.

OVERSEAS TOUR BY CURATOR OF KIRSTENBOSCH

Mr. Jack Marais, Curator of Kirstenbosch Gardens, has been visiting Botanic Gardens in all parts of the United Kingdom and Europe on a six months' tour which began in March. He is making contact with leading horticulturists in many countries and we are sure that on his return he will have many new ideas to put into practice.

SCHOOL PROJECT AT KIRSTENBOSCH

Members of the Westerford High School Land Service Club under the leadership of Beth Ferreira have been allocated two small areas on the outskirts of the Gardens. One area, originally covered with Silver Trees and other indigenous vegetation but later invaded by Eucalypts will be kept clear of alien plants and the children are hoping to restore it to Silver Tree woodland.

On the other area they will create their own "miniature Kirstenbosch" with beds of flowering plants.

HONOUR FOR CURATOR

Mr. J. A. Marais has been elected President of the Institute of Park Administration of South Africa. His installation took place at the Conference held in Port Elizabeth. The Institute is the only association of professional horticulturists in South Africa and is affiliated to the Institute of Park Administration in Great Britain.

SEED LIST FOR 1967

Members are advised to study the 1967 seed list more carefully than usual. During the last few years a determined effort has been made to produce and collect larger quantities of seed of some of the rarer species.

It must please be remembered, however, that Kirstenbosch is not a commercial nursery. It is a *Botanic Garden* and therefore only available *surplus seed* can be supplied.

MENACE OF HARMFUL ALIEN PLANTS

Most of us know how some alien plants such as many of the Australian Wattles, *Albizia distachya*, Hakea and *Pinus pinaster* have encroached on the natural vegetation, especially in the south-western Cape. At last the public seems to be taking a more active interest in this problem which, in my opinion, is perhaps the most serious threat there is to our indigenous flora.

Mnr. Wim Topper, Kurator van die Botaniese Reservaat Harold Porter, Bettiesbaai, lê hom toe op die vegetatiewe voortplanting van Proteas en ander verwante plante.

Steggies skiet wortel onder periodieke besprinkeling van baie fyn mistigheid en hy het 'n uiters vindingryke metode ontwikkel waarmee die gereelde misbesproeiing deur die verdampingsvermoë van die atmosfeer beheer word.

Mnr. Topper het hierdie metode baie sorgvuldig bestudeer en het reeds aansienlike sukses behaal.

BUITELANDSE REIS—KURATOR VAN KIRSTENBOSCH

In Maart vanjaar het die Kurator van Kirstenbosch, mnr. Jack Marais op 'n buitelandse reis van ses maande vertrek waar hy botaniese tuine in die meeste dele van die Verenigde Koninkryk en Europa besoek het. Gedurende sy reis sal hy in aanraking kom met vooraanstaande tuinboukundiges en ons is seker dat na sy terugkoms hy baie nuwe metodes sal wil toepas.

SKOOLPROJEK TE KIRSTENBOSCH

Twee klein stukkies grond aan die buitewyke van die Tuine is aan die Landsdiensklub van Westerford Hoërskool toegeken. Die een stuk wat oorspronklik met Silwerbome en ander inheemse plantegroei oortrek was en later deur bloekombome (*Eucalypts*) verdring is sal bevry word van alle uitheemse plante en die skoliere vertrou dat dit weer deur Silwerbome oortrek sal word.

Op die ander terrein sal hulle hul eie „Kirstenbosch" aanlê met beddings blomplante.

ONDERSKEIDING VIR KURATOR

Mnr. J. A. Marais is tot President van die Instituut van Parke-Administrasie in Suid-Afrika verkies. Hy is tydens die konferensie in Port Elizabeth bevestig. Hierdie Instituut is die enigste vereniging vir professionele tuinboukundiges in Suid-Afrika en is 'n sustersvereniging van die Instituut van Parke-Administrasie in Groot-Brittanje.

1967 SAADLYS

Ons beveel aan dat lede die saadlys vir 1967 noukeuriger nagaan. Gedurende die afgelope paar jaar is daadwerklike pogings aangewend om groter hoeveelhede saad van die skaarser soorte te produseer en versamel.

Daar moet egter onthou word dat Kirstenbosch nie 'n handelskwekery is nie. Dit is 'n *Botaniese Tuin* en gevolglik word slegs oorskotsaad aangebied.

BEDREIGING VAN SKADELIKE UITHEEMSE PLANTE

Baie van ons weet hoe sommige uitheemse plante soos baie van die Australiese wattelbome, *Albizia distachya*, Hakea en *Pinus pinaster* die natuurlike plantegroei, veral in die Suidwestelike Kaapprovinsie, verdring. Dit lyk egter op die publiek uiteindelik 'n meer aktiewe belangstelling in hierdie probleem openbaar wat volgens ons mening miskien die grootste bedreiging vir ons inheemse plantegroei is.

Agriculture must be practised, plantations of timber trees must be established, townships must be developed, mining operations must be expanded. This we know, and we know that our flora must suffer in consequence.

The encroachment by unnecessary, useless and ugly alien plants on the flats and up the mountain slopes even to the very tops is another matter. It is one that we must consider very seriously.

I am ashamed to have to admit that even Kirstenbosch is plagued by these invaders. During the last few years concerted efforts have been made to check the advance—using labour actually employed for horticultural duties—and some progress has been made.

After repeated requests for financial aid to deal with the problem the Government has now given us a special grant. Up to the present we have been able to deal only with new infestations but now we are confidently hoping to eradicate the dense, well established jungles of alien plants.

RESEARCH ON BIOLOGICAL CONTROL OF HAKEA

Fortunately Hakea, of which three species are proclaimed Noxious Weeds in South Africa, is not a problem at Kirstenbosch but it has wiped out hundreds of thousands of acres of natural vegetation in the Cape Province. Up to the present no really effective method of eradication or control has been discovered—but there seems to be some hope for the future!

The Government, in its wisdom, has seen fit to send scientists to Australia to study Hakea in its natural habitat. In that continent it is nowhere abundant and it is certainly not a pest. Several species are in fact protected by law!

Our scientists have discovered that the flowers, fruits, seeds, stems or roots are often attacked by parasites. Apparently these parasites were not introduced with the Hakea into South Africa. The problem now is to find a parasite which is host-specific, i.e. which attacks Hakea only and will leave all other plants alone. If such an insect were liberated in our infested areas perhaps we should be able to eliminate at least one group of our alien pests. Much carefully organised research, investigation and experiment under controlled laboratory conditions will have to be undertaken before such a step is taken.

Kirstenbosch is contributing to these investigations by supplying large varieties of indigenous plants to determine whether they might be attacked by the Hakea parasites.

J. W. MATHEWS TROPHY

The J. W. Mathews Trophy Competition continues to increase in popularity each year and with the introduction of the trophy for Primary School children a record number of entries was received for the 1965 competition. This new trophy, which has been named the Kirstenbosch Conservation Trophy, has been presented by the Trustees of the National Botanic Gardens of South Africa for competition among children from Primary Schools. The 1965 competition

Landboubedrywighede moet voortgaan, timmerhoutplantasies moet aangeplant word, voorstede moet aangelê word en die mynbedryf moet uitgebrei word. Dit besef ons, en ook dat ons plantegroei as gevolg hiervan skade ly.

Maar die indringing van onnodige, nuttelose en liederlike uitheemse plante op die vlaktes en teen die berghange en selfs tot op die bergspitse is egter 'n heel ander saak wat almal van ons se dringende aandag verg.

Tot ons skaamte moet ons erken dat hierdie indringers ook op Kirstenbosch aangetref word. Gedurende die laaste paar jare is alle pogings aangewend om die verspreiding te keer—tuinboukundige arbeid is gebruik—en 'n bietjie vordering is gemaak. Na herhaalde aansoeke om finansiële hulp om hierdie toestand te beveg het die regering nou aan ons 'n spesiale toelaag hiervoor bewillig. Tot dusver kon ons slegs nuwe indringing beveg maar ons vertrou dat ons nou die digte woude van uitheemse plante sal kan uitroei.

NAVORSING OOR BIOLOGIESE BEHEER VAN HAKEA

Hakea, waarvan drie spesies as skadelike onkruid in Suid-Afrika verklaar is, is gelukkig nie 'n bedreiging vir Kirstenbosch nie maar dit het reeds honderdduisende akker natuurlike plantegroei in die Kaapprovinsie uitgeroei. Tot dusver is daar nog nie 'n doeltreffende manier van uitroeiing of beheer ontdek nie—maar dit skyn asof daar hoop vir die toekoms is!

Die Regering, in sy wysheid, het dit raadsaam geag om wetenskaplikes na Australië te stuur om Hakea in sy natuurlike habitat te bestudeer. In daardie land groei dit nêrens welig nie en is dit dus ook nie 'n pesplant nie. 'n Paar spesies word inderdaad volgens die wet beskerm!

Ons wetenskaplikes het ontdek dat die blomme, vrugte, saad, stamme en wortels dikwels deur parasiete aangeval word. Waarskynlik is hierdie parasiete nie saam met die Hakea na Suid-Afrika ingevoer nie. Daar word tans na 'n parasiet gesoek wat slegs Hakea sal aanval en ander plante met rus sal laat. Indien so 'n insek in ons geteisterde gebiede losgelaat sou word sal ons miskien in staat wees om van ten minste een van die groepe uitheemse plante ontslae te raak. Baie sorgvuldige georganiseerde navorsing, ondersoek en eksperimente onder beheerde Laboratoriumtoestande sal egter aangepak moet word alvorens tot so 'n stap oorgegaan word.

Deur groot verskeidenheid inheemse plante te voorsien om vas te stel of hulle straks deur die Hakeaparasiete aangeval sal word dra Kirstenbosch ook sy deel tot hierdie ondersoek by.

J. W. MATHEWS-TROFEE

Die J. W. Mathews-trofee kompetisie neem jaarliks in gewildheid toe en met die instelling van 'n trofee vir laerskole het die aantal inskrywings vir die 1965-kompetisie alle vorige rekords oortref. Die nuwe trofee, die „Kirstenbosch Conservation Trophy", is deur die Trustees van die Nasionale Botaniese Tuine van Suid-Afrika geskenk vir mededinging deur

called for a poster with a flower design using one or more of three wild flowers seen and described by the competitor. The J. W. Mathews Trophy was won by Giles Treasure of Fish Hoek High School. Competition in this section was keen and most of the entries were of a very high standard, making it extremely difficult to pinpoint the winner and the runner-up.

A gratifyingly large number of entries came in from Primary Schools all over the Republic, the Kirstenbosch Trophy going to a 7-year-old pupil of Fish Hoek Primary School, Margaret Ann Silberbauer. The runners-up who shared the J. Sauer van Pletsen award, were Elizabeth Martens of the Alice Mitchell Girls' High School in Durban, in the High School section, and, among the juniors, Michael John Silberbauer of the Fish Hoek Primary School. The posters were judged by Professor Matthys Bokhorst, Director of the S.A. National Gallery.

During the Christmas vacation an Exhibition of these posters was held in the Lecture Hall at Kirstenbosch. This proved very popular with visitors to the Gardens, many of whom were from up-country and found much to interest them in the children's work.

ROBBIE SMITH

Robert Henry Smith, foreman of the Coloured construction gang at Kirstenbosch, died on 13 September 1965. He was in our employ since 1917 and was responsible for most of the rockwork in the Gardens which has been admired by many people. He indeed created his own memorial in stone.

STUDIES OF THE SOUTH AFRICAN SPECIES OF EULOPHIA

The *Journal of South African Botany*, edited by Professor H. B. Rycroft and published under the authority of the Trustees of the National Botanic Gardens of South Africa, brought out Supplementary Volume No. V in addition to the four quarterly parts of Volume 32 during the year. This is a monograph covering the results of the research work done by Dr. A. V. Hall, of the Bolus Herbarium, Department of Botany at the University of Cape Town. In the 248 pages a most comprehensive description of the South African species of this orchid genus is set out and is accompanied by 41 diagrams as well as 43 maps and one plate. This Supplementary Volume is available at R3.00 from the Director of the National Botanic Gardens of South Africa, Kirstenbosch.

CHECK LIST OF SWAZILAND FLORA—SUPPLEMENTARY VOLUME VI

This Volume *An Annotated Check List of the Flora of Swaziland*, by Professor R. H. Compton, formerly Director of the National Botanic Gardens, records the species of Flowering Plants and Ferns occurring in Swaziland. It includes an alphabetical Index of Families and Genera as also a most useful list of botanical names with their Swazi equivalents. As the

laerskoolleerlinge. Die 1965-kompetisie het gehandel oor 'n plakkaat met 'n blommotief waarin een of meer van die drie veldblomme gebruik word wat deur die deelnemer gesien en beskryf is. Die J. W. Mathews-trofee is toegeken aan Giles Treasure van die Hoërskool Vishoek. Daar was ywerige wedywering in hierdie afdeling van die kompetisie en inskrywings was van so 'n hoë gehalte dat dit moeilik was om die eerste en tweede pryse toe te ken.

Die groot aantal inskrywings van laerskole uit alle dele van die Republiek was baie bemoedigend en die Kirstenbosch-trofee is aan 'n sewejarige leerling van die Laerskool Vishoek, Margaret Ann Silberbauer, toegeken. Die tweede pryswenners aan wie die J. Sauer van Pletsenprys gesamentlik toegeken is, was Elizabeth Martens van die Alice Mitchell Hoër Meisieskool in Durban, in die hoërskoolafdeling en die juniorprys is verower deur Michael John Silberbauer van die Laerskool Vishoek. Die beoordelaar was Professor Matthys Bokhorst, Direkteur van die S.A. Nasionale Kunsgallery.

Gedurende die Kersfeesvakansie is 'n uitstalling van hierdie plakkate in die Lesingsaal op Kirstenbosch gehou. Die uitstalling het groot byval gevind by besoekers aan die Tuine, waarvan baie uit die binneland gekom het en die kinderkuns het groot belangstelling gewek.

ROBBIE SMITH

Robert Henry Smith, voorman van die kleurlingkonstruksiespan op Kirstenbosch is op 13 September 1965 oorlede. Hy het sedert 1917 hier gewerk en was verantwoordelik vir die bou van die meeste van die klipwerk in die Tuine wat deur baie mense bewonder word. Hy het waarlik sy eie gedenkteken in sy klipwerk gebou.

„STUDIES OF THE SOUTH AFRICAN SPECIES OF EULOPHIA"

Benewens die vier kwartaallikse dele van Vol. 32 van die *Journal of South African Botany*, geredigeer deur professor H. B. Rycroft en uitgegee onder beskerming van die Trustees van die Nasionale Botaniese Tuine van Suid-Afrika, is Aanvullende Boekdeel V ook gepubliseer. Hierdie monograaf handel oor navorsing deur dr. A. V. Hall van die Bolus Herbarium van die Departement van Plantkunde van die Universiteit van Kaapstad. Dit beslaan 248 bladsye en bevat 'n mees omvattende beskrywing van die Suid-Afrikaanse spesies van hierdie orgidee. Daar is 41 diagramme, 43 kaarte en een plaat. Hierdie Aanvullende Boekdeel kan teen R3.00 elk bestel word by die Direkteur, Nasionale Botaniese Tuine van Suid-Afrika, Kirstenbosch.

„CHECK LIST OF SWAZILAND FLORA"—AANVULLENDE BOEKDEEL VI

Hierdie boek *An Annotated Check List of the Flora of Swaziland* deur professor R. H. Compton, voormalige Direkteur van die Nasionale Botaniese Tuine, is 'n notering van die Blomplante en Varings wat in Swasieland aangetref word. Dit bevat 'n alfabetiese inhoudsopgawe van families en genera asook 'n baie other Supplementary volumes this is available from the National Botanic Gardens, Kirstenbosch, at R3.00 plus postage.

SMUTS MEMORIAL FELLOWSHIP

Dr. Rolf Dahlgren, of the University of Lund, Sweden, was the holder of the Smuts Memorial Fellowship this year and arrived in South Africa towards the end of July 1965. He was accompanied by Mr. Arne Strid of the Cyto-Taxonomic Laboratory in Lund and together they covered many miles of South African country in the course of their research work. Dr. Dahlgren worked mainly on the genera Aspalathus, Lebeckia and Wiborgia (Leguminosae) which he has been studying for a number of years, having visited South Africa before in 1956 in connection with these studies. Mr. Strid, who is a cytologist, began work on Adenandra, Bobartia and Sutherlandia.

Between them they collected nearly 3,000 specimens in the course of their travels mainly in the south-western and eastern Cape. The main object of their stay in South Africa was the collection of cytological material, seeds and further variation records and a large number of plants was transplanted at Kirstenbosch for these purposes.

"KIRSTENBOSCH—GARDEN FOR A NATION"

In this attractive and informative book, the story of the development of the National Botanic Garden at Kirstenbosch is told by someone eminently suited to the task—Professor R. H. Compton, who was Director of the Gardens during its most formative years.

The book, running to just 170 pages, contains an historical introduction by Dr. Mary Cook as also a report on the Golden Jubilee celebrations in 1963 by Professor H. B. Rycroft, present Director of the Gardens. It costs R3.00 and may be obtained from the Director of the National Botanic Gardens, Kirstenbosch, in an English edition. An Afrikaans edition is now available at the same price.

The book was launched by the publishers, Tafelberg-Uitgewers, at a ceremony held at Kirstenbosch on the evening of 11 November, at which many local celebrities were present including the Administrator of the Cape Province, Mr. J. N. Malan, who addressed the gathering.

MISS B. E. MARTIN

It is with regret that Kirstenbosch had to say farewell to Miss B. E. Martin who retired as secretary of the National Botanic Gardens, Kirstenbosch, after an association lasting 30 years. The Botanical Society of South Africa conferred on her Honorary Life Membership in recognition of her services to Kirstenbosch.

Miss Martin was in charge of the bulb section at Kirstenbosch from 1934 to 1937. After serving with distinction in the W.A.A.S. for nearly five years, she returned to Kirstenbosch with a London University Diploma in Social Studies and was appointed Secretary.

nuttige lys van botaniese name met hul Swasie-ekwivalente. Soos die ander Aanvullende Boekdele kan hierdie een ook bestel word teen R3.00 elk plus posgeld by die Direkteur, Nasionale Botaniese Tuine, Kirstenbosch.

SMUTS-GEDENKSTIPENDIUM

Die houer van die Smuts-gedenkstipendium vanjaar was dr. Rolf Dahlgren van die Universiteit van Lund, Swede. Hy het aan die einde van Julie 1965 in Suid-Afrika gearriveer. Mnr. Arne Strid van die Sitotaksonomiese Laboratorium in Lund het hom vergesel en saam het hulle baie myle deur die Suid-Afrikaanse veld gereis in die loop van hulle navorsingswerk. Dr. Dahlgren het hom hoofsaaklik toegelê op die genera Aspalathus, Lebeckia en Wiborgia (Leguminosae) wat hy reeds vir 'n aantal jare bestudeer. Hy het Suid-Afrika reeds in 1956 hieromtrent besoek. Mnr. Strid, 'n sitoloog, het met navorsing oor Adenandra, Bobartia en Sutherlandia begin.

Gedurende hulle reise, hoofsaaklik in die Suidwestelike en Oostelike Kaapprovinsie het hulle saam byna 3,000 plantmonsters versamel. Hulle hoofdoel in Suid-Afrika was die versameling van sitologiese materiaal, saad en verdere noterings van variëteite en 'n groot aantal plante is in Kirstenbosch vir hierdie doel oorgeplant.

KIRSTENBOSCH—TUIN VIR 'N VOLK

In hierdie aantreklike en leersame boek word die storie van die ontwikkeling van die Nasionale Botaniese Tuin op Kirstenbosch vertel deur iemand wat hoogs bekwaam daartoe is—professor R. H. Compton wat gedurende die vormingsjare Direkteur van die Tuine was.

Die boek, wat 170 blaaie beslaan, bevat 'n historiese inleiding deur dr. Mary Cook, asook 'n verslag oor die Goue-Jubileumvierings in 1963 deur die huidige Direkteur van die Tuine, professor H. B. Rycroft. Dit kos R3.00 per eksemplaar en is in beide amptelike tale beskikbaar vanaf die Direkteur, Nasionale Botaniese Tuine van Suid-Afrika, Kirstenbosch. Die Engelse titel is *Kirstenbosch—Garden for a Nation.*

Die verskyning van die boek is deur die uitgewers, Tafelberg Uitgewers, op die aand van 11 November 1965 tydens 'n byeenkoms op Kirstenbosch van stapel gestuur. Heelwat vooraanstaande gaste was teenwoordig en die Administrateur van die Kaapprovinsie, mnr. J. N. Malan het die hoofrede gevoer.

MEJ. B. E. MARTIN

Tot ons spyt het Kirstenbosch afskeid geneem van mej. B. E. Martin, sekretaresse van die Nasionale Botaniese Tuine, Kirstenbosch toe sy na 'n verbintenis van 30 jaar afgetree het. As waardering van haar dienste aan Kirstenbosch het die Botaniese Vereniging ere-lidmaatskap aan haar toegeken.

Gedurende 1932–1935 was mej. Martin in bevel van die bolplantafdeling op Kirstenbosch. Nadat sy met onderskeiding in die S.A. Leër vir byna vyf jaar gedien het, het sy na Kirstenbosch teruggekeer met 'n diploma in Sosiologie van die Londense Universiteit en is sy as sekretaresse aangestel.

She left the office at the beginning of November to travel extensively in New Zealand and Australia before returning to South Africa in 1966.

EDWARD MUSPRATT SOLLY SCHOLARSHIP

Miss G. Pamphlett has been granted the Solly Scholarship for 1966. This will enable her to spend a year in the Compton Herbarium gaining an insight into and training in general herbarium practice. She is undertaking research work on the genus Bulbinella.

Mr. J. P. Rourke joined the staff of the Compton Herbarium early in 1966 as Botanical Assistant. Since obtaining his B.Sc.(Hons.) degree at the University of Cape Town in 1965 he has been working on Leucospermum and the minor genera of the Proteaceae.

ALOES OF TROPICAL AFRICA AND MADAGASCAR

Dr. G. W. Reynolds published his *Aloes in South Africa* 14 years ago and has just completed a companion volume on the *Aloes of Tropical Africa and Madagascar*. This book will contain descriptions of and notes on 197 species as also 106 colour plates and 557 black-and-white plates, and according to the author should have been available in July or August 1966.

Dr. Reynolds has been honoured by the Botanical Society of S.A. in being awarded the Harry Bolus Medal for his distinguished services to Botany.

EXHIBITION—REPUBLIC FESTIVAL

As a part of the Republic Festival an Exhibition was staged in the Lecture Hall at Kirstenbosch which was seen and admired by the many visitors who visited the Gardens during the last weekend in May. The foyer was a delight to the eye with a superb arrangement of wild flowers to tone in with the Republic flag.

The Compton Herbarium had an array of beautiful paintings of South African flowers by artists who had at some time in the history of the Gardens been connected with it. These were very much admired and many questions asked about the lovely work.

The teachers displayed an exhibit demonstrating the progress through the years—Kirstenbosch, past, present and future—from prehistoric stone implements found on the grounds to the plan of the new classrooms to be erected in the near future.

Down the centre of the hall the story of the Botanical Society and the Gardens was depicted by exhibits of various kinds, including the ancient family Bible used by the Cloete family in the homestead which stood on the spot where the Tea House now stands, photographs and pictures reminiscent of our Jubilee year, exquisite embroidery of wild flowers done by members of the Botanical Society and many other exhibits of interest to lovers of Kirstenbosch.

Recently we have been fortunate enough to acquire for the institution some original paintings of wild flowers by Ethel May Dixie and a special exhibit of these was arranged at one end of the hall. We were honoured by a visit from this wonderful nonagenarian on Republic Day and would like to pay tribute not only to her undoubted talent but also to her vitality and charm.

Na haar aftrede in November het sy op 'n uitgebreide reis na Nieu-Seeland en Australië vertrek en sal later vanjaar na Suid-Afrika terugkeer.

EDWARD MUSPRATT SOLLY-BEURS

Hierdie beurs is vir 1966 aan mej. G. Pamphlett toegeken. Dit sal haar in staat stel om 'n jaar aan die Compton-herbarium deur te bring waar sy meer omtrent herbariumroetinewerk sal leer. Sy is besig met navorsing op die Genus Bulbinella.

Mnr. J. P. Rourke is vroeg in 1966 aangestel as Botaniese Assistent aan die Compton-herbarium. Nadat hy die B.Sc.(Hons.)-graad aan die Universiteit van Kaapstad behaal het is hy besig met navorsingswerk op *Leucospermum* en die kleinere Proteaceae genera.

„ALOES OF TROPICAL AFRICA AND MADAGASCAR"

Veertien jaar gelede het dr. G. W. Reynolds se boek *Aloes of South Africa* verskyn en hy het so pas 'n aanvullende boek oor *Aloes of Tropical Africa and Madagascar* voltooi. Hierdie boek bevat beskrywings aan en aantekeninge oor 197 spesies met 106 kleur en 557 swart-en-wit plate, en die skrywer meen dat dit in Julie of Augustus 1966 sou verskyn.

REPUBLIEKFEES-UITSTALLING

Gedurende die laaste naweek in Mei het 'n uitstalling wat as deel van die Republiekfees in die Lesingsaal, Kirstenbosch, gehou is 'n groot aantal besoekers gelok. In die ingangsportaal was daar 'n groot rangskikking van veldblomme in dieselfde kleure as die landsvlag wat langsaan gedrapeer was.

Die Compton-herbarium se uitstalling het bestaan uit veldblomskilderye deur Suid-Afrikaanse kunstenaars wat die een of ander tyd sedert sy ontstaan aan die Tuine verbonde was. Die uitstalling het groot bewondering en belangstelling gewek.

Die natuurstudieonderwysers se uitstalling het die vordering deur die jare uitgebeeld—Kirstenbosch, verlede, hede en toekoms—van prehistoriese klipgereedskap wat op die gronde gevind is tot by die bouplanne van die nuwe klaskamers wat op Kirstenbosch opgerig gaan word.

In die middel van die saal is die geskiedenis van die Botaniese Vereniging en die Tuine weergegee deur verskillende uitstallings, o.a. die ou familiebybel wat deur die Cloete-familie gebruik is in die ou opstal wat op die terrein van die huidige Teekamer was, foto's en prente uit ons Jubileumjaar, pragtige borduurwerk deur lede van die Botaniese Vereniging en baie ander items van belang vir liefhebbers van Kirstenbosch.

Onlangs het die inrigting van die oorspronklike veldblomskilderye deur Ethel May Dixie bekom en 'n spesiale uitstalling is hiervan teen die een muur van die lesingsaal gerangskik.

Ons het op Republiekdag besonder geëerd gevoel toe hierdie wonderlike negentigjarige die uitstalling besoek het en ons bring graag hulde aan haar onbetwisbare talende en haar lewenskragtigheid en sjarme.

NEW INTRODUCTION TO WORLD HORTICULTURE

The remarkable crimson-flowered "Daisy", *Ursinia geyeri*, has been successfully cultivated at Kirstenbosch from seeds since it was discovered a few years ago. It is a perennial with small greyish-green leaves, branching freely into a compact plant up to one foot tall and starts producing its glowing red flowers, more than two inches across, about four months from seed.

DIRECTOR OF KIRSTENBOSCH FOR WORLD HORTICULTURAL CONGRESS

Professor H. B. Rycroft attended the XVII International Horticultural Congress at the University of Maryland from 15 to 20 August 1966 where he delivered a paper on the Horticulture of South African Indigenous Plants. After the Conference he visited Botanic Gardens in New York, Los Angeles, St. Louis, Pennsylvania and Bermuda, giving lectures at each place. We look forward to hearing about this interesting trip, feeling sure he will have much of interest to tell members of the Society.

NEWS FROM JAPAN

Mr. Hiroshi Michimata of Japan writes:

"From about ten years ago I have cultured Cactus and Succulents including Lithops and Aloes, etc. Particularly, I like very much the flower of *Dorotheanthus bellidiformis*, now in my garden, its flowers are in full bloom".

Mr. Michimata is also interested in Lampranthus species and has asked whether any members would like to send him seed in exchange for seed of Japanese plants.

His address is: Mr. Hiroshi Michimata,
4 Chome 336, Egi-cho,
Takasaki-shi, Gunma-Ken,
Japan.

STELLENBOSCH CENETENARY

To mark the Centenary of the establishment of higher education at Stellenbosch, our Society was invited by the "Sentrale Reëlingskomitee" of the University of Stellenbosch to hold one of its meetings at Stellenbosch. A very successful meeting was held in the R. W. Wilcocks Building of the University on Tuesday, 12 April 1966. Mr. D. Webb of the Plant Protection Research Institute, Pretoria, gave a talk on "The Biological Control of Hakea in Australia", which he illustrated with colour slides. In response to Professor Rycroft's request, his lecture was given in Afrikaans.

QUEEN ACCEPTS S.A. EVERLASTINGS

Chatting to a lady-in-waiting to Queen Elizabeth in a ground floor reception room in Buckingham Palace was the most exciting experience of the past two months for Mrs. Joan Pare, who returned yesterday to Constantia from Europe.

Her tour included a visit to the United States where she studied florists' teaching methods in a New York school while staying at the Y.M.C.A.

NUWE INTRODUKSIE IN DIE WÊRELDTUINBOUKUNDE

Sedert dit 'n paar jaar gelede ontdek is, is die merkwaardige karmosynrooi madeliefie, *Ursinia geyeri* met welslae op Kirstenbosch van saad gekweek. Dit is 'n meerjarige plant met smal grysgroen blare wat maklik in 'n kompakte plant van tot 1 voet hoog groei. Die gloeiende rooi blomme, meer as 2 duim in deursnee, verskyn omtrent vier maande na saaityd.

DIREKTEUR VAN KIRSTENBOSCH BY INTERNASIONALE TUINBOUKUNDIGE KONGRES

Vanaf 15 tot 20 Augustus 1966 het professor H. B. Rycroft die 17de Internasionale Tuinboukundige Kongres aan die Universiteit van Maryland bygewoon waar hy 'n referaat gelewer het oor *Horticulture of South African Indigenous Plants*. Na afloop van die kongres het hy Botaniese Tuine in New York, Los Angeles, St. Louis, Pennsylvanië en Bermuda besoek en lesings op elke plek gelewer. Ons sien uit daarna om van hierdie interessante reis te verneem en is seker dat hy baie leersame dinge het om aan lede van die Vereniging te vertel.

NUUS UIT JAPAN

Mnr. Hiroshi Michimata van Japan skryf soos volg:

„From about 10 years ago, I have cultured Cactus and Succulents including Lithops and Aloes etc. Particularly, I like very much the flowers of *Dorotheanthus bellidiformis*, now in my garden, its flowers are in full bloom."

Mnr. Michamata stel ook in *Lampranthus* spesies belang en wou weet of enige lede aan hom saad sal stuur in ruil vir Japanse plante.

Sy adres is: Mnr. Hiroshi Michimata,
4 Chome 336, Egi-cho,
Takasaki-shi, Gunma-Ken,
Japan.

STELLENBOSCH SE EEUFEFSVIERING

Tydens die Eeufeesvierings van die stigting van hoër onderwys in Stellenbosch het die Reëlingskomitee van die Universiteit ons Vereniging uitgenooi om een van ons vergaderings in Stellenbosch te hou. 'n Baie geslaagde vergadering is op Dinsdag, 12 April 1966 in die R. W. Wilcocks-gebou by die Universiteit gehou. Mnr. D. Webb, van die Plantbeheer Navorsingsinstituut, Pretoria, het 'n lesing gelewer, geïllustreer met kleurskyfies, oor *Die Biologiese Beheer van Hakea in Australië*. Op versoek van professor Rycroft is hierdie lesing in Afrikaans gelewer.

KONINGIN AKSEPTEER S.A. SEWEJAARTJIES

'n Gesprek met 'n hofdame van Koningin Elizabeth in een van die ontvangskamers van Buckingham-paleis was die opwindendste ondervinding van die afgelope twee maande vir mev. Joan Pare, wat gister na Constantia teruggekeer het uit Europa.

Sy het ook die V.S.A. besoek waar sy onderrigmetodes van bloemiste in New York bestudeer het terwyl sy by die Y.M.C.A. ingewoon het.

Before leaving South Africa, Mrs. Pare wrote to Buckingham Palace asking whether a selection of South African everlastings would be acceptable to the Queen. She was astonished to find a letter awaiting her in London inviting her to present them herself.

She was presented to Lady Rose Baring, a cousin of Sir Evelyn Baring (one time High Commissioner in South Africa) and was invited to stay for a while.

The Queen was tremendously interested in the flowers—she had seen them before when I gave a similar selection to her mother during the 1947 Royal visit.

"Lady Rose talked a great deal about the Queen's Ethiopian tour, saying how much she had enjoyed the three days of camping they had done".

Mrs. Pare gave an illustrated talk on television on flower decoration.

The Cape Argus, 9 *August* 1965

MISS E. M. DIXIE AWARDED AN HONORARY LIFE MEMBERSHIP

Miss Ethel May Dixie, the well known painter of South African wild flowers, celebrated her 90th birthday on 9 May 1966. Professor H. B. Rycroft presented Miss Dixie with a bouquet of wild flowers on her birthday and told her that she had been awarded an honorary life membership of the Society in recognition of her services to Botany.

Miss Dixie recently presented most of her remaining paintings to Kirstenbosch.

THE HARRY BOLUS MEDAL AWARDED TO CAPTAIN T. M. SALTER

To commemorate the centenary in 1965 of the commencement of Harry Bolus' herbarium collection, the Botanical Society decided to make an award periodically to an amateur (non-professional) botanist who had contributed important observations or data to Botany.

The first award was made to Captain T. M. Salter of Claremont, Cape, who was the joint editor of *Flora of the Cape Peninsula*, published in 1950.

An informal tea party was held immediately after the Botanical Society Council Meeting held on 22 September 1965 in honour of Mrs. Sima Eliovson, Chairman of the Society's Transvaal Branch.

Mrs. Eliovson and her publisher, Mr. Howard Timmins, presented a copy of her newly-published book *Proteas for Pleasure* to Kirstenbosch.

Professor H. B. Rycroft, Director of Kirstenbosch Gardens, has been elected honorary vice-president of the African Succulent Plant Society established recently in London for the cultivation and study of succulent plants indigenous to Africa. Professor Rycroft has also been made first patron of the Cape Natural History Club, of which he has been an honorary life member for some years.

He has also been elected an honorary member of the newly formed South African Wild Flower Growers' Association, and appointed to the Advisory Boards of the Helderberg (Somerset West) and Fernkloof (Hermanus) Nature Reserves.

Voor haar vertrek uit Suid-Afrika, het mev. Pare aan Buckingham-paleis geskryf om te verneem of die Koningin 'n versameling S.A. sewejaartjies sou ontvang. By haar aankoms in Londen was sy verbaas om 'n brief te ontvang waarin sy uitgenooi word om díe ruiker self te oorhandig.

Sy is voorgestel aan lady Rose Baring, 'n niggie van sir Evelyn Baring (eertydse Hoë Kommissaris in Suid-Afrika), en is genooi om 'n wyle te vertoef.

Die Koningin het besonder baie in die blomme belanggestel aangesien sy dit reeds vantevore gesien het toe ek 'n soortgelyke versameling aan haar moeder in 1947 geskenk het.

Lady Rose het heelwat meegedeel oor die Koningin se reis na Ethiopië en hoeveel sy die driedaagse kampeerdery geniet het.

Cape Argus, 9 Augustus 1965

TOEKENNING VAN ERE-LEWENSLIDMAATSKAP AAN MEJ. E. M. DIXIE

Mej. Ethel May Dixie, die welbekende skilderes van Suid-Afrikaanse veldblomme, het op 9 Mei 1966 haar 90ste verjaarsdag gevier. By hierdie geleentheid het professor H. B. Rycroft 'n ruiker blomme aan haar geskenk en haar meegedeel dat die Botaniese Vereniging Ere-lewenslidmaatskap aan haar toegeken het as waardering van haar dienste aan die plantkunde.

Onlangs het mej. Dixie die meeste van die skilderye in haar besit aan Kirstenbosch geskenk.

TOEKENNING VAN DIE HARRY BOLUS-MEDALJE AAN KAPTEIN T. M. SALTER

Ter herdenking van die 100-jarige bestaan in 1965 van die Harry Bolus-herbarium versameling, het die Botaniese Vereniging besluit om periodiek 'n toekenning te doen aan 'n amateur (nie-professioneel) wat belangrike observasies en inligting tot die plantkunde bygedra het.

Kaptein T. M. Salter van Claremont, K.P., mede-outeur van *Flora of the Cape Peninsula* wat in 1950 verskyn het, het die eerste toekenning ontvang.

Net na afloop van die Raadsvergadering van die Botaniese Vereniging op 22 September 1965, is mev. Sima Eliovson, voorsitster van ons Transvaalse tak op 'n informele teeparty onthaal.

Mev. Eliovson en haar uitgewer, mnr. H. Timmins het hiertydens 'n eksemplaar van haar pas-gepubliseerde boek *Proteas for Pleasure* aan Kirstenbosch geskenk.

Professor H. B. Rycroft, Direkteur van Kirstenbosch Tuine, is gekies tot ere-visepresident van die *African Succulent Plant Society* wat onlangs in Londen gestig is vir die kweek en bestudering van Afrika se inheemse vetplante. Professor Rycroft is ook gekies tot eerste beskermheer van die Kaapse Natuur-Historiese Vereniging waarvan hy reeds vir baie jare ere-lewenslid is.

Hierbenewens is hy ook verkies tot erelid van die pasgestigde Suid-Afrikaanse Veldblomkwekers Vereniging en is op die Adviesrade van die Helderberg- (Somerset-Wes) en Varingkloof- (Hermanus) natuurreservate aangestel.

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Sima Eliovson R5.75

This book tells you everything there is to know about Proteas, the magnificent illustrations, most in full colour, are a feature of this unique volume.

"A paean of praise to Southern Africa's national flower has now been adequately sung for the first time".

"Sunday Chronicle"

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"Sunday Tribune"

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The wreath-laying ceremony in Paris with, from left to right, Prof. R. Heim, Member of the French Institute and Director of the French Museum of Natural History, Prof. M. A. Donk, Head of the Mycological Department of the Rijksherbarium, Leiden, Prof. H. B. Rycroft, Director of the National Botanic Gardens of South Africa and the South African Ambassador, Mr. W. Dirkse van Schalkwyk.

Christiaan Hendrik Persoon
His Grave Now Restored

C. E. Hugo
National Botanic Gardens of South Africa, Kirstenbosch.

A little more than 200 years ago in Stellenbosch, an outpost of the little settlement at the "Cape of Good Hope", a boy was born who was destined to become a famous scientist. Though he left the country of his birth to study and work in Europe, and eventually to die there after a lifetime devoted to the study of Mycology, South Africa is proud to claim him as her own.

It was fitting that South Africans should wish to bring recognition to his name and work and, when it was learnt that his grave in Paris had fallen into sad disrepair, they felt it was for them to do something about restoring it.

In an article which appeared in the 1965 issue of this publication the difficulties encountered in attaining this end were described and, as a result, a fund for the restoration of Persoon's grave came into being.

It had taken many months of research and work at Kirstenbosch to bring this project anywhere near completion but nothing would have come of it if financial assistance had not been forthcoming from interested scientists all over the world who sympathised with our aims. With the help of their generous donations we were enabled to complete the restoration work and to present the grave to the world again in its original form. To all those who by their contributions to our "Persoon Fund" ensured the success of the undertaking our sincere thanks are due and, as a mark of appreciation, their names are placed on record below:—

LIST OF DONORS

Almborn, Dr. O., Lund, Sweden.
Ballantine, Mrs. P. G., Claremont, Cape.
Barron, Mr. & Mrs. T. E., Gillits, Natal.
Bayer, Prof. A. W., Pietermaritzburg, Natal.
Botanical Research Institute, Pretoria, Transvaal.
Botany Department, University of Cape Town.
Bourke, Maj. M. E., Pretoria, Transvaal.
Buchanan, Mr. R. H., Newlands, Cape.
Cape Natural History Club, Wynberg, Cape.
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Gouws, Prof. J. B., Bellville, Cape.
Groenwald, Prof. J. W., Pretoria, Transvaal.
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Pienaar, Dr. W. J., Cape.
Pocock, Dr. M. A., Grahamstown, Cape.
Reynolds, Dr. G. W., Mbabane, Swaziland.
Rijksuniversiteit, Leiden, Holland.
Rycroft, Prof. H. B., Cape.
Schweickerdt, Prof. H. G., Pretoria, Transvaal.
S.A. Association for the Advancement of Science, Transvaal.
S.A., C.S.I.R., Microbiology Research Group, Pretoria, Transvaal.
Schelpe, Dr. E. A., University of Cape Town.
Selborne School, Std. V., Vereeniging, Transvaal.
Simons, Mr. Richard, Rondebosch, Cape.
Stephens, Miss Edith, Rondebosch, Cape.
Strid, Mr. A., Lund, Sweden.
Terblanche, Col. I. P. S., Maitland, Cape.
Tidmarsh, Mr. C. E. M., Pretoria, Transvaal.
Twyman, Prof. E. S., Grahamstown, Cape.
van Steenis, Prof. C. G. G. J., Leiden, Holland.
van Zinderen Bakker, Prof. E. M., Bloemfontein, O.F.S.
Verdoorn, Miss I., Pretoria, Transvaal.
Vogts, Mr. & Mrs. B., Betty's Bay, Cape.
Weimarck, Prof. H., Lund, Sweden.

Another great factor contributing to success was the assistance accorded by the South African Ambassador in Paris, through whose influence permission was gained for work on the grave to be undertaken. We are most grateful to the Ambassador and his staff for their wonderful co-operation and particular mention should be made of Mr. Roy McNab who, acting on our behalf all along the line, successfully bridged the 6,000-mile gap between Cape Town and Paris. It is mainly due to his efforts that the 21st of July, 1966, saw the eminently satisfactory culmination to all our labours.

On this day a solemn ceremony took place at the restored grave in the Cimetière Le Père La Chaise in Paris. It was attended by the South African Ambassador in Paris, Mr. Dirkse van Schalkwyk, and other members of the Embassy staff, as also by many eminent botanists, including Professor Dr. M. A. Donk, Head of the Department of Mycology at the Rijksherbarium, Leiden, Professor Roger Heim, Director of the French Museum of Natural History, Paris, and Professor H. B. Rycroft, Director of the National Botanic Gardens of South Africa, Kirstenbosch, who had flown over specially.

Professor Dr. M. A. Donk of Leiden, (where most of the results of Persoon's research and scientific work are housed), paid tribute to the great mycologist as follows:—
"Grant me permission to allow Persoon to introduce himself to you. In unpublished letters, dated 1810, he tried after many years to resotre contact with his relatives in Cape Colony. In these he tells how he has fared during the intervening years. He writes: "By now you will be wanting to know how I am living here in Europe . . . Although I do not enjoy the most robust health, at the same time, thanks be to God! I have not had any severe illness. My pursuits consist in cultivation of the sciences, or, more specifically, in the study of nature. I have published a number of books on botany that have been received by the public with approval. I am a fellow of various learned societies and a Doctor of Philosophy. But although these things bring honour and satisfaction, they produce few earnings, so that, did I not receive from Amsterdam . . . the wherewithal for my keep, I should not be able to live here very comfortably . . . Eight years ago I left Germany and am now living in Paris in order to perfect myself in the sciences and especially to learn the French language well." So far Persoon.

What interests me, personally, is the human being Persoon and this in particular because we know so little about his character. After much delving into history it proves all too clearly that in regard to the man and his work, the man is still an invisible man. All that his biographers have brought to light is little more than the raiment and wrappings the invisible man must wear in order to be recognised as an individual. About this covering we do know something. But once we think it away, there stands before us the invisible man. Perhaps if we look sharply, we can perceive a vauge outline here and there. So far the historians have not succeeded in drawing the man Persoon forth from his invisibility and giving him concrete shape.

Let me elucidate this premise by one point. During the period of fifteen years that Persoon lived in Göttingen he became a famous scholar without ever completing his studies. His mycological works established his fame. He was made a member not only of a number of German learned societies but also of foreign ones, like the Linnean Society of London. The Kaiserlich-Leopoldinische-Carolinische Deutsche Akademie der Naturforscher granted him the honorary degree of Doctor of Philosophy.

But out of this period, what have we been able to glean about his character and life? Nothing, absolutely nothing. Nothing of this nature appears in letters or in memoires of a single one of his colleagues or fellow-townsmen—not even an anecdote. What induced him to break off his life in Göttingen so suddenly and withdraw to Paris? Why is there nothing about this period to be found in his autographic inheritance? It has been rightly remarked that this celebrity as a bibliographical subject is only a shade.

The "changement de décor", the exchange of Göttingen for Paris, cuts straight across Persoon's life. He began a completely new life, with French for his language. At the start he seems not to have had any great worries but about 1810, as a result of the Napoleonic Wars, contact with the Netherlands and the Cape had become difficult and sporadic. For these and various other reasons, for many years in succession he was truly in financial difficulties. His health became delicate, his star in the mycological firmament became overshadowed by another luminary of the first magnitude. Almost simultaneously Fries and Persoon each started on the publication of a large compilation of mycology. But the work of Fries, the new, young genius, was soon to win out from that of the much older man, who was finding it more and more difficult to hold his own and who finally abandoned its completion. (Fries's criticism of Persoon's rival "Mycologia europea" is scathing and ruthless.)

In the philosophical background of the two mycologists, however, there was a subtle difference that was sensed by a few French mycologists, who took to calling themselves the bearers of the "Persoonian tradition". The first of these was Persoon's diligent correspondent Mougeot and it is significant that in the part of France where Mougeot lived, a phenomenal group of famous mycologists evolved and flourished. Mougeot handed the torch to Quélet, Boudier, and Patouillard; and it is this school who introduced an entirely new taxonomy for fungi and who gradually outdistanced the Friesian tradition, finally thrusting it aside.

It is by intention that I have left out of consideration the only profuse authority on Persoon's life in Paris, his appearance, and his death. Fée's article was written by a romantic, in a romantic era that didn't shrink from exaggeration. It is beyond a shadow of doubt that Persoon's distress in Paris during the period between 1810 and 1830 was often great, but I can also assure you that we now know that the information given by Fée on many points was inaccurate, very little discriminative and strongly coloured. It is desirable that Persoon's life be studied anew. In Leiden there is a wealth of raw material from Persoon's legacy waiting for a few dedicated people who will edit it.

The attachment Persoon had for his relatives and the land of his birth, the Cape, he felt deeply. As he once wrote to his family (again in unpublished pieces): "I need not tell you how much pleasure it gives me (to receive letters from you), since here in Europe I must live among strangers and far from my kinsfolk, with whom, in those melancholy moments to which every person is more or less exposed, I could find comfort and encouragement . . . Although I am no longer young, nevertheless I cherish a longing to return to the Cape . . . I indulge the hope that I may obtain a post at the Cape . . . in accordance with my aptitude and ability, for I believe that among you, a naturalist can do a great deal not only for the sciences but also for the good of the country; and in any case may I once more hope to see again my beloved mother country and my relatives and friends, and in their friendly midst to lead a much happier life than here (in Paris)". His hopes were not to be realized.

Professor Rycroft, could Persoon have known that to-day, thanks to your felicitous initiative and tenacity of purpose, a group of people of South African origin were to be gathered at his grave to bring homage from the land of his birth, I am certain that he would have been deeply moved and filled with gratitude. Had he been here in the flesh, for a brief moment he would have felt himself no longer entirely among strangers".

Professor Rycroft then placed a wreath of South African wild flowers, grown at Kirstenbosch, on Persoon's grave, now restored to its original simple dignity. This lovely wreath, composed of silver tree leaves, proteas and other attractive blooms, had been made by Mrs. Joan Pare of Constantia,—its beauty a fitting tribute to the esteem in which the South

African-born scientist is held. After laying the wreath, Professor Rycroft proceeded to address the assembled company in these word:—

"It is indeed a great honour for me to be present here today to lay a wreath of South African wild flowers grown at Kirstenbosch on the grave of one of South Africa's earliest botanists.

I am proud, too, to think that Kirstenbosch has been mainly instrumental in making this ceremony possible. It is eminently fitting that the most celebrated Botanic Garden in South Africa should have been the first to recognise the necessity for the restoration of the grave of Christiaan Hendrik Persoon who was born in South Africa a little more than 200 years ago.

Although Persoon lived and worked for most of his life in Europe we regard him as a true South African, especially when we realise that on his mother's side, at any rate, three generations preceded him in our country.

At the early age of 13 the lad was sent to Europe to continue his education and it was while he was studying medicine at the Universities of Leiden and Göttingen that he began to be interested in Botany. Most of his adult and productive years were spent in Paris and it was here that, in 1836, he died and was buried at this very place.

Realising the eminence to which Persoon rose as a Mycologist and remembering that he was born in South Africa we at Kirstenbosch decided that his grave, which had fallen into a sad state of neglect, should be restored. Many difficulties were encountered however. First and foremost, we were told that it was essential to find a descendant who could authorise the work on the grave, as required by the Curator of the Cemetery. This was no easy task as Persoon had never married and it proved most difficult to trace descendants of his sisters who had remained in South Africa.

It became most urgent to make a start on the work as we had been informed by the South African Embassy in Paris that this part of the ancient cemetery had been declared a National Monument and the grave was consequently in danger of complete destruction. We appealed to our Ambassador in Paris for assistance and were very much relieved when he was able to gain permission for the restoration work to be done. Through the kind offices of the Embassy staff a firm was engaged to undertake the work and the result is here before you today.

Through the generosity of many scientists and friends of Kirstenbosch, both in South Africa and abroad, we were able to raise sufficient funds and our grateful thanks are due to each and every contributor—not only our thanks but the gratitude of all who wish to see true worth honoured as it should be. To all who have shown interest in our project this day stands out as one of triumph—an achievement of which Kirstenbosch and all of uscan be proud.

Persoon, in his will, specified in exact detail how he wanted his grave to be designed. We have followed his last wishes and the grave, as you see it here today in all the dignity of simplicity, is exactly as he himself desired it to be.

This is an occasion which I shall long remember when I, as Director of the National Botanic Gardens of South Africa, Kirstenbosch, through whose efforts this restoration was made possible, stand here in this distinguished company to do honour to a great scientist, Christiaan Hendrik Persoon—a true son of South Africa."

After the ceremony the guests were entertained at the South African Embassy to a reception which had been arranged by Mr. McNab. On all sides Professor Rycroft heard nothing but commendation for the way in which Kirstenbosch had taken the lead in this matter. Professor Heim expressed the view of many botanists when he congratulated Professor Rycroft on the fact that Kirstenbosch had accomplished from 6,000 miles away what they in Europe had been endeavouring to do since 1936—the centenary of Persoon's death. Scientists all over the world have expressed enthusiasm over "Operation Persoon" and its successful culmination in the ceremony which took place in Paris this year.

Some Recollections of Kirstenbosch in its Early Days

MARGARET R. LEVYNS

IN July 1914 while spending the Cambridge long vacation in South Africa, I saw Kirstenbosch for the first time, a very different Kirstenbosch from the one we know today. A well made road went as far as Bishopscourt. From that point onwards a shady and attractive lane led to the entrance gates of Kirstenbosch. An occasional cart or pony trap ventured on it but the winding roots of the tall pines constituted a hazard that most drivers of vehicles did not risk. Professor and Mrs. Pearson had invited me to tea in their temporary home on the slopes above the nursery which had been started as soon as the gardens were established. While still an undergraduate at the South African College I had visited the Pearsons at their home, Blinkbonnie, in the Camp Ground Road, Newlands. The contrast between that and their present home brought realisation of the sacrifices that they had made for Kirstenbosch. The house consisted of two small, rat-infested rooms, damp in winter and dusty in summer. Cooking was carried out in a lean-to structure outside. However, discomforts did not discourage the first Director of the gardens and his wife. I was shown around and told of plans for development with the enthusiasm which characterised Professor Pearson throughout his all too short life. He was not one to dwell on the difficulties which he met at every turn but from others I learned something of the life he led in those early days. He rose as soon as it was light and toured the gardens, taking a deep interest in everything and everybody from the Curator down to William, a coloured labourer whose principal activity seemed to be catching moles. Then, on four days in each week, he left by pony trap for Newlands station where he caught a train to town. A walk up the Avenue brought him to the South African College where he carried out his duties as Professor of Botany until the late afternoon when the same lengthy journey in reverse took him back to Kirstenbosch. Wednesdays and week-ends were devoted to Kirstenbosch. It has always amazed those of us who were fortunate enough to know him, that one frail man could carry out such a multitude of duties with such conspicuous efficiency.

The next occasion when I visited Kirstenbosch was in November 1916 on my return from studies abroad. It was a sad time for Professor Pearson had just died and the gardens had been deprived of their founder and inspiration. Fortunately in Mr. J. W. Mathews, the first Curator, Kirstenbosch had acquired a skilled gardener able to organise to the best advantage the meagre resources then available. The small cottage vacated by the Pearsons in 1915 when they moved to the newly built Director's house, had now become the office and seed store. There Mr. Mathews kept the records while the secretarial work, as before, was carried out by Miss H. J. Davison at the South African College. She had been one of Professor Pearson's students and was deeply interested in the Gardens. The business side was managed in this interim period by those staunch friends of Kirstenbosch, Mr. Duncan Baxter and Mr. Frank Cartwright.

Finance, then as now, was a problem. In those days the government grant was supplemented by the sale of firewood and acorns. With this meagre income but little money was available for the salaries of trained gardeners. A committee of women, prominent among whom were Lady Rose Innes and Dr. L. Bolus, brought forward a scheme which would provide Mrs. Pearson with a home and at the same time give Kirstenbosch workers for the garden. The Director's house was to be used, as a temporary measure, as a hostel for women gardeners.

They were to receive training from Mr. Mathews and at the same time provide reliable workers. So early in 1917 Miss N. Harvey and Miss W. Peacock were enrolled as student gardeners. In order to make it possible to run the hostel without financial loss, three other people were invited to live there. They were Miss Mary Page (the botanical artist), my mother and myself. I had been appointed to the staff of the South African College in a temporary capacity, so for five days in each week I followed the routine that had been Professor Pearson's travelling into town early and returning late. It was convenient for Kirstenbosch to have a direct connection with town and on Fridays Mr. Mathews would hand me the requirements for the current week's wages. The Secretary in town then drew the necessary money which I carried back to Kirstenbosch in the late afternoon. My arrival in the pony trap, driven by a small coloured boy, was a great moment for it meant that in a short time the wages would be paid out.

Only a small area was under cultivation. The Cycad Amphitheatre had been planted and the Dell below the Bath had attractive pools with well established tree ferns growing nearby. The rock work, now a conspicuous feature, had not yet been completed. Today it is difficult for people to realise that water from the Bath once ran down a gentle slope and that shade was provided by oak trees, somewhat diseased but affording welcome shelter until the trees that we now know were large enough to replace them. The lawn was established early but it took many years of patient work before it ceased to become water-logged in the winter. Above the lawn and across the roadway, rocks and soil were transported to create a koppie which Professor Pearson had hoped would be one of the garden's most outstanding features. It was planted with several species of Aloe which, had they succeeded, would during the flowering season have provided a blaze of colour. With the spectacular background of the mountain it would, when viewed from the lawn, have provided a spectacle of surpassing beauty. Alas, most of the Aloes succumbed to rust and other diseases. Experience showed that Aloes, used so effectively in other parts of South Africa, were not happy at Kirstenbosch. The koppie is still there, mellowed with age and merging imperceptibly into the slopes behind. The daisy family has now largely replaced the more spectacular Aloes. Another feature which Professor Pearson had hoped would be one of Kirstenbosch's major attractions was an avenue of Cape Chestnut trees. A wide strip leading up to the ruins of Colonel Bird's house, was cleared of vegetation and young trees planted on either side. For a time they grew but then one by one they died. Possibly the species which is at home in places with a summer rainfall, is unable to withstand the dry summers of the west. At that time a beautiful, well-grown tree in the grounds of Feldhausen in Claremont, flowered profusely each year and it is possible that the success of this tree may have encouraged the hope that the avenue in South Africa might rival that of its counterpart at Bushey Park in England where the Horse Chestnuts draw crowds of admirers each year. This dream, alas, was not to be realised. However, if some of the original plans did not succeed, many did. The Cycad Amphitheatre, the Dell and the Lawn are living testimonies to the imagination and skill of their originators.

On the slope where the Karroo Garden and greenhouses now stand, oats were grown for the horses and mules. The stables for the former lay at the foot of the old nursery long since moved to a more satisfactory site near the present office. On the Cape Flats side of the road leading to Newlands Avenue were plots set aside for scientific work such as testing plants for their possible economic value. Various kinds of Buchu, Castor Oil and several other plants were growing there in 1917. Professor Pearson had also hoped to initiate plant breeding experiments and with that end in view had urged me to work at the John Innes Horticultural Institution, then at Merton Park near Wimbledon. Dr. William Bateson, the Director, allowed me to take part in the experimental work in progress and I returned to South Africa with a knowledge of the methods of plant breeding, a knowledge which I hoped to put into practice at Kirstenbosch. These plans had to be abandoned. For a few years I carried out breeding experiments but it was soon obvious that plant breeding at Kirstenbosch could not be carried out by one fully occupied as a lecturer at the newly founded University of Cape Town. Perhaps one day the dream of the first director will be realised and plant breeding will find a place in the manifold activities of Kirstenbosch.

What of the people who lived at Kirstenbosch in 1917? We were an isolated community for the pony trap which carried the inhabitants of the garden to and from Newlands station during the day, had a well earned rest at night. Two of us owned bicycles but they were not used at night because the road which connected Kirstenbosch and Newlands Avenue was dark and lonely. The only house on it lay above the road and an orchard of Persimmon trees separated it from the users of the road. Mrs. Pearson naturally objected to any of us using that road alone at night. When it was necessary to be in town in the evening, arrangements were made to stay overnight with friends.

The six women living in the hostel were oddly assorted but fortunately settled down happily to a communal existence. Mrs. Pearson whose life had been so tragically changed by her husband's death, ran the hostel on simple efficient lines and contributed much to our comfort and well-being. The most vivid personality in the house was undoubtedly Miss Mary Page. She had come to South Africa for the sake of her health but, having no private means, had to earn her living. At one time she had helped with a store on the border of the Orange Free State and Basutoland. Fortunately her talent as a botanical artist was realised and at that time she was attached to the Bolus Herbarium. So good was her work that she is mentioned in Wilfrid Blunt's *The Art of Botanical Illustration*, published in London in 1950, as an artist of exceptional merit. Her love of nature together with a keen sense of humour, made her a fascinating if sometimes exasperating companion. Miss Harvey who shared a large bedroom with her, must on many occasions have had her forbearance sorely tested. One night so determined was Miss Page to get a painting of a vygie, growing in a pot and presumably flowering at night, that she set a small alarm clock at hourly intervals so that the apparently short-lived flower should not elude her. Miss Page got her painting about 3 a.m. Let us hope that Miss Harvey's enthusiasm for gardening compensated her in some measure for what must have been a disturbed night. Often at week-ends Miss Page and I would set out to explore the upper slopes of Kirstenbosch. In those days an orthodox botanist, such as myself, carried a black shiny collecting tin known as a vasculum. Miss Page considered this quite an unnecessary encumbrance and her botanical treasures were dropped into the bulging folds of an ancient sunshade hooked over her arm. We were both interested in the flora and on our return from these expeditions would bury ourselves in the volumes of the *Flora Capensis*. Anyone familiar with this essential but baffling work, the only book on the flora available at that time, may guess at the degree of success that attended our efforts of identification.

There were two other dwelling houses on the estate in those days. A small cottage with its own garden, stood at the left of the path leading up from the old gates. There Mr. Mathews, the cheerful and efficient Curator, lived with his wife and small daughter. Across the stream, under shady oak trees more numerous then than now, stood a picturesque but dilapidated cottage with large Apricot trees growing in front of it. Mr. Rohland the Ranger and his wife lived there. She provided tea and scones for visitors, served on rough tables under the oaks. Surely no refreshments tasted better than Mrs. Rohland's simple fare after the long walk to and around Kirstenbosch.

At night isolation of the gardens was complete for the coloured labourers had their homes in the nearby village of Protea. How isolated we were was brought home to us one night when a bush fire broke out in that part of the gardens that had once belonged to the

Klaassenbosch Estate. My room faced south and I had been working late preparing lectures for the next day. Everyone else had gone to bed. When I put out the oil lamp I found that, instead of it being dark, a red glow suffused the room. That could mean but one thing — fire. Climbing through a window (the only way of getting out for Mrs. Pearson locked the front door when she went to her room on the stoep) I woke Mrs. Pearson. The Director's house had a telephone but neither of the other houses had, so the only way in which we could raise the alarm was to run down the rough path and wake Mr. Mathews. Mrs. Pearson carried a storm lantern and I an electric torch. We must have covered the ground with speed for before long a band of fire-fighters appeared, recruited from Protea. Luckily the fire was extinguished just as it reached the garden of the Director's house. It was an exciting night.

Now in the age of the motor car and with an ease of communication unknown in the early days, much has changed at Kirstenbosch. However, its charm remains. It is still possible to find peace and solitude and for a time to forget the stresses of living in a machine age.

MR. MILTON CLOUGH

Chairman of the Botanical Society

Mr. Milton Clough passed away after a short illness on 26 September 1965.

Mr. Clough was Chairman of the Cape Local Board of the Standard Bank of South Africa Limited, member of their South African Board and formerly General Manager in South Africa.

Mr. Clough had been Chairman of the Botanical Society since 1958 and a member of the Board of Trustees of the National Botanic Gardens of South Africa for eight years. He will be sadly missed after his long association with Kirstenbosch.

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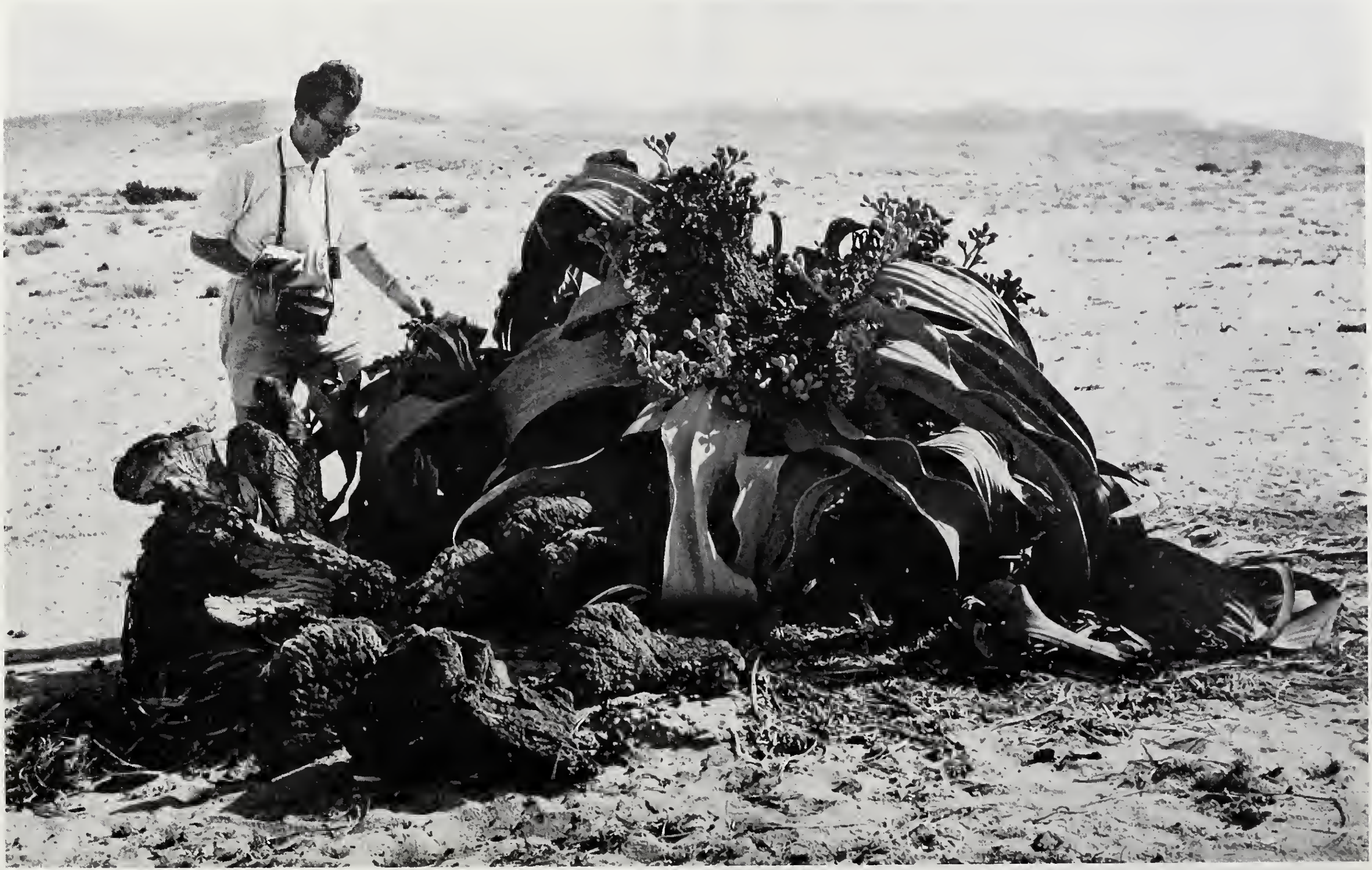


Welwitschia bainesii, estimated to be about 2,000 *years old which was found* 65 *miles from Swakopmund, South West Africa, in the Welwitschia Plains.*

Photograph: Alice Mertens, Cape Town.

Welwitschia bainesii (Hook f.) Carr.

WIM J. TIJMENS

University of Stellenbosch

GENERAL INFORMATION

Welwitschia bainesii (= *W. mirabilis*) was named after Dr. Welwitsch who discovered these plants in 1859.

Their natural habitat is in South West Africa (Namib Desert and further inland) and in the South of Angola.

The Welwitschia belongs to the Gymnosperms. Their seedcones resemble those of the Coniferae. The Welwitschia is not, as is often thought, a succulent plant.

Parts of a very large and much branched Welwitschia plant were sent by the late Mr. Jensen from Walvis Bay to the University of Stellenbosch, from where Mr. H. Herre, the retired Hortulanus, sent it to a company in America in order to establish the age of this particular plant. A C14 test was done and the results proved that mentioned plant was more than 750 years old. Larger plants are known and we may therefore assume that these Welwitschias can get far over 1,000 years old.

The Welwitschia plants were for the first time grown from seed to seed by Mr. H. Herre in the glasshouses of the Hortus Botanicus of the University of Stellenbosch. Mr. Herre obtained these seeds from Dr. R. Marloth. The plants which are dioecious flowered for the first time after twenty years. There was great excitement in the Hortus but also disappointment when one of the students decided to walk off with the flowerspike.

Fortunately the plants have flowered and produced seeds ever since.

CULTIVATION

In order not to damage the root, seeds can be sown in drainage pipes and these can ultimately be planted in a permanent position.

In Stellenbosch the plants as well as the pipes, were planted, though the latter were cracked before lowering into the plant bed in order not to obstruct the root growth.

Seeds can be sown in a mixture of coarse river sand and humus 2:1, which should be kept slightly moist.

Germination should take place within three weeks. The soil in plant bed should be a mixture of fine granite, coarse river sand and humus.

The optimum glasshouse temperature during the winter months is 20° Celcius.

According to the seasons one has to take care of sufficient ventilation. Welwitschias, being desert plants, do get a certain amount of moisture from the night dew, and should be watered in cultivation regularly during summer months and less during autumn and winter months.

A few small Welwitschia plants in the glasshouse of the University, from seeds which fell next to the mother plant, are doing well.

Whenever possible one should sow *in situ* and when taken sufficient care these fascinating desert plants should not be difficult to grow.

Ref.: Hundert Jahre Welwitschia. Kakteen und andere Sukkulenten Jahrgang 10, 1959.

A Visit to the Botanical Society's Branches

—JEAN HARVEY

Secretary/Treasurer, Botanical Society of S.A.

A MOST interesting suggestion was made by Professor Rycroft that I should accompany him on his journey to Pretoria on Gardens' business, which he intended to combine with a visit to our Society's branches in Harrismith and in Johannesburg.

I am most grateful to our Council for granting me leave for this purpose.

We departed Kirstenbosch by car (Professor Rycroft, his father, Mr. F. C. Rycroft and myself) late in the afternoon of January 20th and our first call was the Karoo Gardens, Worcester, where we stayed until early the following morning.

After a night's stay at Richmond, we travelled on to Bloemfontein and after a short pause there for lunch, we proceeded to the Willem Pretorius Game Reserve.

We arrived just after widespread rains had broken the serious drought of many weeks' duration and the effect had been miraculous. The grass had virtually turned a refreshing green overnight.

Professor Rycroft had arranged with the Provincial Administration for me to stay in one of their bungalows at Allemans Kraal and as their guest I was given a charming one (where the curtains had prints of white and yellow arum lilies!) overlooking the dam near the Game Reserve.

Early next morning, we drove through the Reserve and were most fortunate in seeing rhinoceros and giraffe at a very close range — a few yards from the car! I was also happy to see *Arctotis grandis* growing on the verge of the road, as well as our own Cape forget-me-not— *Anchusa capensis*.

Although our stay at Allemans Kraal was a very brief one, this visit was a delightful interlude.

We arrived in Natal on the following morning and the countryside was a rich green. Flanking the roadside were clusters of lilac-pink Watsonias (*Watsonia densiflora*) a characteristic flower of the summer-rainfall area.

As we travelled towards Howick (Professor Rycroft's boyhood home) we visited the Midmar Dam and the Howick Falls, which were impressive sights.

A combined meeting of the Botanical Society and the Botanic Society of Natal had been arranged that evening in the Ball Room of the Imperial Hotel, Pietermaritzburg. Professor Rycroft's talk was of his exceptionally interesting experiences in Russia. He was introduced to the audience (and the hall was filled to capacity) as a past pupil and Head Prefect of Maritzburg College and a graduate of Natal University College. It was a most successful meeting and I was happy to meet many of our members during the tea interval.

On our arrival at Harrismith, Professor Rycroft arranged a meeting for that same afternoon with the Town Clerk, members of the Council and Mrs. M. L. Jacobsz, the Chairman of our Harrismith branch, to discuss developments in connection with the establishment of the Harrismith Garden. After the meeting, Mrs. Jacobsz drove Professor Rycroft and myself to view the site of the Garden.

A members' meeting was held that same evening in the Staatspresident C. R. Swartsaal, Harrismith, where I met our Honorary Secretary, Mrs. Bessie de Beer and many other members of the Harrismith branch and when Professor Rycroft gave a talk.

Mrs. Jacobsz, Mrs. Hugo Wessels and other enthusiastic helpers had arranged a display of wild flowers (gathered from Mrs. Jacobsz' farm) and dried specimens on the stage of the hall, together with various books of botanical interest.

On the following afternoon, we attended a planting ceremony in the reserve arranged by Mrs. Jacobsz. Just prior to the commencement of the planting, I was taken on an exciting ride in a jeep to the top of the "koppie" by Dr. Hugo Wessels! The planting ceremony ended with a delightful shower of rain!

Our meeting in Bloemfontein was held in collaboration with Mrs. H. Barry, President of the Council for the Association of University Women and took place in the Shell Auditorium. Here again, the talk given by Professor Rycroft was a great success.

During our stay in Bloemfontein, I was taken to see the proposed site for the Garden at Winters Valley, which is in a beautiful setting, approximately five miles from the centre of the City.

In Johannesburg, we were present at our Johannesburg branch's First Annual General Meeting, held on February 8th, in the New Geology Theatre of the Witwatersrand University. Here I met members of our Branch Committee and many other members for the first time.

Mr. Frank Bradlow of Cape Town, was the guest speaker and gave his interesting talk on Baron von Ludwig and the Ludwigburg's Garden at the Cape, to a most appreciative audience.

During our stay in Johannesburg, I was a guest for a few days in the home of our able Honorary Secretary, Mrs. Louise van der Merwe and her husband, Dr. van der Merwe, where I felt very much "at home".

On our return journey, it was necessary for Professor Rycroft to interview the Administrator of Bloemfontein for the second time and on the invitation of one of our members, Mrs. A. Geldenhuys, we made a detour to visit her stud farm, situated about ten miles from Kroonstad. We were graciously entertained during our brief visit there and were taken to see Mrs. Geldenhuys' garden which was of outstanding beauty and where it was obvious to see evidence of her delight in cultivating as many of our indigenous plants as she possibly could.

Extending from Hanover until a few miles before Richmond, Cape, I was enchanted by the sight of the Candelabra flower, *Brunsvigia orientalis*, growing in patches of brilliant red within a distance of a few yards from the roadside.

After spending the night in Richmond, we left for home early the next morning and our interesting journey, covering some 3,000 miles, ended on our arrival in Cape Town that evening.

The Farmer and the Flora

Margaret Lawder

We South African farmers have many opportunities to take part in the great work that is being done to conserve and preserve the South African flora; to cultivate and study it and to encourage children to reverence and cherish our country's floral heritage.

Botanists, the Government, townsfolk and countrymen, we all may do our bit in one way or another, but living on the land, as we farmers do, our opportunities are perhaps more obvious than those for example of the flat dweller in a city, though actually townspeople both can and do use their varied talents to contribute to the success of the task in ways which are equally important. We do not forget, here in South Africa, that overseas members of the Botanical Society also play their part — they cultivate our plants — they help us financially and they encourage us with their interest.

My husband and I have been South African farmers for nearly twenty years. Many of our Boland neighbours share with us the consternation we feel regarding the harm done to wild flowers by farm employees. The damage perpetrated by these simple people is nearly always done in ignorance — they are essentially flower lovers and are often excellent gardeners but they have not the faintest conception of the idea of preserving and conserving the flora. This does not make it any the less infuriating to farmers who, like ourselves, somtimes find cherished protea bushes torn to pieces for firewood!

Farmers can, and often do, teach their workers that wild flowers must not be picked, sold or destroyed. But many of us think that this is not enough. It occurs to us that much constructive work could be done if somehow or other instruction of a very simple nature could be given about the flora in the country schools for Bantu and coloured children.

I talked recently to a young coloured teacher who was taking her pupils for what she called a "Nature Walk". She agreed most enthusiastically that lantern slides shown with a talk and perhaps gay posters of the flowers to hang in the classrooms would help the children to learn the nature lessons which she herself felt should be an important part of their education.

Some farmers are serving as honorary conservation officers, but more volunteers are needed. Countrymen and women can do very valuable work by becoming nature conservation officers. Not only have we opportunities to restrain passers-by who, in spite of the regulations, may often be seen picking roadside flowers, but we can assist the authorities to stamp out hawking of wild flowers. I think that we all agree that there is less illegal selling than there was even a few years ago. But to imagine that it has been entirely stopped would be wishful thinking!

According to a report which I saw recently, Christmas Bell (*Saundersonia aurantica*) was "hawked" freely in Natal during December. In Paarl and other Western Province towns we still occasionally see offenders. If we have become honorary conservation officers we can cope effectively with both illegal selling and illegal picking besides undertaking various other duties as indicated by the Department of Nature Conservation.

To set apart a portion of our property, however small, as a farm wild flower reserve is a very important piece of work which a number of farmers have already undertaken. Professor Rycroft has often advocated the creation of farm reserves, stressing that in them we should plant (or allow to grow naturally) the flowers which occur in Nature on our own farms and nearby — we should not attempt to make a little Kirstenbosch with a plant population drawn from other parts of the Republic. Our leaders are aware that though a farm reserve gives great pleasure and satisfaction to its owners it also may present some formidable problems — we are short of labour — we have little leisure ourselves and trespassers both can and do plague us with their maraudings. From painful personal experience, I would suggest that farm wild flower reserves should be established near the homestead and as far as possible from a public road. Ours is neither and our losses have been grievous.

It might be argued that we are farmers, not botanists, and not necessarily skilled horticulturists and that we have not therefore the knowledge which would be necessary to serve the South African flora in the ways which have been discussed in this article.

The answer to that, may I say, is that we can learn! We all have plant know-how or we shouldn't be on the land and there are excellent books to help us to become familiar with the flora, the species which are protected, the cultural requirements and the habits of the fascinating plants with which our country is endowed.

Most of us have one or more "wild flower books" on our shelves and we may see and buy others at the Botanical Society's headquarters. I myself have found *Wild Flowers of the Transvaal* an invaluable book — I did not acquire it when it first appeared because I am principally interested in the Cape flora and I did not then realise that the title is too modest. The book is very much more than a book about the wild flowers of the Transvaal; it is as well an introduction to the flora as a whole and is a "must".

Written by botanists for laymen, *Wild Flowers of the Transvaal* is delightfully illustrated by the artist Cythna Letty.

Much remains to be done as our leaders remind us. But let us take heart for progress is being made. The responsibility laid on the shoulders of our dedicated leaders is heavy. But the many are coming to the assistance of the few and generations of South Africans yet to be born may perhaps one day say of us that whatever we may have neglected to do in these middle years of the twentieth century we did cherish the unique flora which is our country's heritage.

PROFESSOR R. S. ADAMSON

Professor R. S. Adamson, who was an Honorary Life Member of the Botanical Society, passed away at his home in Jedburgh, Scotland on 6 November 1965.

In 1923 he was appointed as Harry Bolus Professor of Botany at the University of Cape Town and he held this post until his retirement in 1950.

Professor Adamson was a Fellow of the Royal Society of South Africa and President from 1946 to 1948. He was also President of the Botanical Section of the South African Association for the Advancement of Science in 1927.

In 1950, he published jointly with Captain T. M. Salter, *Flora of the Cape Peninsula.*

Kunsmatige Vegetatiewe Voortplanting by die Proteaceae

—W. P. Topper

Botaniese Reservaat Harold Porter, Bettysbaai

Ons nasionale veldplantsoort, die *Protea repens* (*P. mellifera*) wat by elke Suid-Afrikaner so na aan die hart lê en bekend is as suikerkan of suikerbos, behoort tot die groot familie plante van die Proteaceae. Hierdie by uitstek pragtige familie van plante sluit ook die leucospermums (luisies, speldekussings), leucadendrons (knopbosse, tolbosse), serrurias, Aulax, Mimetes, *Brabeium stellatifolium* (wilde amandel) e.a. in. Ook die uitsterwende moerasroos, *Orothamnus zeyheri*, behoort aan die groep.

Dit kan gebeur dat die spesies van een genus met mekaar verbaster. So is daar naamlik al baie kruisings wat in die genus Protea voorkom soos o.a.:

P. latifolia × *P. susannae*
P. longifolia × *P. compacta*
P. neriifolia × *P. lepidocarpodendron*

Ook in die serrurias is daar 'n welbekende kruising van:

S. florida × *S. aemula*

wat deur mnr. F. Batchelor geteel is en die naam van „Maid of Honour" gekry het.

Die vorme wat uit die kruisings ontstaan kan soms 'n uitsonderlike skoonheid en baie goeie kwaliteite besit vir veral die handelsdoeleindes. Dit is egter nie noodsaaklik dat enerse plante steeds uit een bepaalde kruising ontstaan nie, aangesien die nageslag onderling nogal baie kan verskil.

In ons botaniese tuine en natuurreservate word die plante op een beperkte stuk grond soms naby mekaar geplant om dit ten toon te stel vir die besoekers. Die gevolg daarvan egter is dat die moontlikheid tot verbastering nogal in die hand gewerk word tussen die aanmekaar verwante gewasse en 'n mens van die struik- of boomsaad nooit heeltemal seker kan wees of dit wel botanies suiwer is nie.

Dis dus noodsaaklik vir die aanplant van suiwer spesies, dat veral vir ons botaniese tuine, steeds die saad versamel moet word van die plekke in die veld, waar die plante botanies suiwer voorkom met 'n minimale kans op verbastering. 'n Mens kan begryp dat die saadversameling dan soms baie tyd en moeite kan kos as dit op verafgeleë plekke of hoog in die berge moet gebeur. Vir die meeste genera van die Proteaceae moet die saad ook op die regte tyd versamel word daar dit anders of nie ryp genoeg is nie of reeds uitgeval het.

Die ontkieming van Protea-sade is oor die algemeen bevredigend, met uitsondering van die saad van 'n hybride-plant wat soms steriel blyk te wees. Daarenteen is dit nie altyd ewe bevredigend met die sade van die ander genera nie en kan 'n mens soms baie moeite hê om hulle na 'n lang periode te laat ontkiem. Dit is naamlik heel moontlik dat sade van die *Serruria florida* wel nege maande tot een jaar lank lê in die saadbed voor hulle ontkiem. Daarby is die ontkiemingspersentasie van die sade van die speldekussings soms ook baie onbevredigend, terwyl 2,000 ryp en uitgesoekte sade van die *Mimetes hirta* gesaai in die Botaniese Reservaat Harold Porter maar 14 plantjies opgelewer het in 1965.

Die volgende redes regverdig dus die soek na 'n vegetatiewe vermeerderingsmetode van die Proteaceae:

1. Die voortkweek van bepaalde hybrides sowel as van botanies suiwer spesies.
2. Die meer ekonomiese kweek van plante deur o.a. besparing op saadversamelingstogte.
3. Die verkorting van die kweekperiode tot die eerste blomproduksie van die plante.
4. Die moontlike massaproduksie van plante wat baie min saad lewer of waarvan die saad onvoldoende kiemkragtig is.
5. Die moontlikheid om seleksie toe te pas i.v.m. blomproduksie, weerstand teen bepaalde siektes e.d.m.

Dit het gelyk asof daar onder die tuinboukundiges sowel as onder sommige plantkundiges 'n algemene opvatting ontstaan het, dat die vegetatiewe vermeerdering van die Proteaceae o.a. deur middel van steggies so nie onmoontlik nie dan tog sekerlik onbevredigende resultate sou lewer. Die oorsaak vir hierdie opvatting is waarskynlik geleë in die feit dat toetse op hierdie gebied tot onlangs inderdaad baie onbevredigende en dikwels selfs negatiewe resultate gegee het.

Sedert 1930 toe prof. Went uit Utrecht in Holland sy eerste proefnemings begin het met die gebruik van planthormone op die versnelling van groei van bepaalde plantweefsels het die kennis omtrent die gebruik en die saamstelling van die groeistowwe geweldig toegeneem. Uit 'n groot verskeidenheid van planthormone wat bevorderende invloed op die vorming van die plantwortels het word teenswoordig die indoliel-bottersuur, indoliel-asynsuur, naftaleen-asynsuur, naftaleen-asynamied en die natrium- en kaliumsoute van indoliel-botterstuur en naftaleen-asynsuur die meeste in die tuinbou gebruik. Hierdie hulpmiddels is momenteel van baie groot nut vir die vegetatiewe metode van voortkweking. Danksy hulle kan daar baie plante, wat voorheen uitsluitlik van saad gekweek moes word, nou ook van steggies vermeerder word.

Verskillende institute is op die oomblik besig met 'n intensiewe ondersoek-program in die Proteaceae na 'n gunstige kweekmetode, anders as deur saad. Gelukkig is daar reeds suksesvolle en hoopvolle resultate bereik!

Een van die institute is ons Nasionale Botaniese Tuine van Suid-Afrika te Kirstenbosch waar reeds verskeie jare onder die bekwame leiding van mnr. G. Feinauer 'n metode gevolg waardeur steggies van o.a. leucospermums wortels vorm en waar selfs gunstige resultate bereik is met die bewortelling van steggies van die moerasroos, *Orothamnus zeyheri*.

In die *Journal of S.A. Botany*, Vol. XXV, 1959, p. 249 vermeld prof. H. B. Rycroft reeds, dat steggies geneem van taktoppe van *Leucospermum arenarium* met sukses aan die groei gekry is te Kirstenbosch.

In Januarie 1965 is 'n spesiale kweekhuis in die Botaniese Reservaat Harold Porter gebou en ingerig met die modernste outomatiese watervernewelsisteem om ondersoek te doen op die steggie-metode. In hierdie kweekhuis word by die ondersoek spesiaal gelet op die optimale hormoonbehandeling, steggie-tyd, -soort en -grondsoort. Die grond- en lugtemperatuur word wel genoteer, maar omdat hulle nie in die kweekhuis beheer kan word nie kan daarop geen toetse gedoen word nie.

In die periode van die ondersoek is daar reeds opmerklik gunstige resultate behaal met 'n verskeidenheid van plante. Dit was reeds moontlik om gewortelde steggies van *Mimetes hirta*, *Leucadendron sabulosum*, *Leucospermum album*, *Serruria florida*, *Mimetes argentea* en *Paranomus sceptrum* in die tuin uit te plant. Ander plante wat ook gewortel het is *Serruria aemula*, *Leucospermum buxifolium*, *Priestleya tomentosa*, *Indigofera* sp. e.a. Steggies gesny van *Lsp. album* in Januarie 1963 is gewortel in Maart 1963 en daarna opgepot in 8-pd. blikke met 'n sanderige grondmengsel. Hulle het uitstekend in die blikke gegroei tot hulle in Februarie 1965 uitgeplant is in die kwekery van die Botaniese Reservaat Harold Porter. Daar het hulle gedurende die maande September–November 1965 ryklik geblom en saad geskiet, terwyl in Januarie 1966 dit moontlik was om van een van die struike 220 steggies te sny! Met die oorplanting uit die blikke na die oop grond het die pragtige wortelstelsel so in die potgrond deurgroei, dat die hele kluit aan die stamme opgetel kon word sonder dat dit uitmekaar val. Die gesonde en pragtige struikies bewys dat uitstekende plante wat aan alle eise kan voldoen, uit steggies gekweek kan word.

Uit die voorafgaande bespreking blyk dus wel dat dit wenslik en moontlik is om soorte van die Proteaceae deur steggies voort te kweek. Die resultate wat reeds behaal is, wek die hoop dat talle soorte van die Proteaceae in die toekoms deur steggies voortgeplant sal kan word.

Graag betuig ek my dank aan my direkteur, prof. H. B. Rycroft vir sy toestemming om die proewe te doen en vir sy aanmoediging. My dank ook aan prof. J. B. Gouws vir die kleurskyfies wat hy met veel sorg van 'n aantal gewortelde steggies geneem het.

APOLOGY

We sincerely regret the omission of the following member's names from the printed list of members appearing in the 1965 Journal:—

HONORARY LIFE MEMBER
Mrs. O. M. Porter, Grahamstown.

LIFE MEMBER
Dr. R. H. Marcloth, E. Transvaal.

Free and Tardy-flowering Forms of Nerine sarniensis

K. H. Douglas
Kingswood College, Grahamstown

Although the beautiful *Nerine sarniensis* is native to the Cape Province it is not widely grown here in South Africa. The chief reason for this lack of honour in its own country is that this particular species has gained a not altogether undeserved reputation for being tricky. Often it appears to grow and increase well, but flowering is so erratic and tardy that after a few years many gardeners give it up in disgust and grow the not quite so beautiful but hardier and more free-flowering species such as *Nerine filifolia*, *N. humilis* or *N. bowedenii.* Nevertheless some gardeners regularly produce dazzling displays of these fascinating flowers with apparent ease. Their success may well be due to their thorough understanding of the cultural needs of the plant, but good fortune in obtaining a free-flowering strain of *sarniensis* must also have played a big part in their success.

Some years ago I was on the lookout for a free-flowering strain which would set seed freely. Accordingly I set up a small experiment to test the different available forms of this variable species. I ordered mature flowering-size bulbs from five different commercial sources (Lots A to E) and had three collections made from the wild (Lots F to H). For comparison purposes I used a very free-flowering form of *N. humilis* from Caledon (Lot I) and that well-known, reliable, hybrid nerine "Gaiety" which had been sent to me by Mr. Stanley Smee of Ipswich (Lot J).

Each of the first nine groups (A to J) consisted of six bulbs, but only three mature bulbs of "Gaiety" were available. I planted these groups in a well-drained, raised bed in the open. The soil was a rich, uniform mixture and I was careful to give all the bulbs similar treatment in the way of water, light, spacing and food. Spacing was four inches apart in rows ten inches apart. For four years I kept careful records of the number of flowering stems produced by each group of bulbs. The results of this simple experiment are set out in the table below.

Lot	No. of bulbs	No. of flowering stems each year				Totals	REMARKS
		1st	2nd	3rd	4th		
A	6	2	3	4	3	12	Fair. Insect damage 4th year.
B	6	1	3	0	0	4	Very tardy. Prolific offset production.
C	6	5	2	5	2	14	Free-flowering in alternate years only.
D	6	0	0	1	0	1	Healthy but remarkably tardy.
E	6	4	4	5	6	19	Very free, few offsets.
F	6	1	4	5	7	17	Very free. Bulbs not plump on arrival.
G	6	1	3	2	2	8	Tardy, dwarf form. Many offsets.
H	6	2	3	4	5	14	Fair.
I	6	5	5	6	8	24	Very free-flowering. *N. humilis*.
J	3	2	3	3	5	13	Extremely free-flowering. "Gaiety".
Totals		23	30	35	38	126	

COMMENTS

Different strains of *N. sarniensis* seem to vary enormously in their ability to produce flowering stems even under uniform conditions. Of the first eight groups only E and F were satisfactory while most of the others were mediocre or poor. Lots B and D were exceptionally poor. It would seem worthless for a gardener to persevere with an inherently poor strain. Good soil, ideal conditions and care will not make up for a built-in resistance to flowering.

It is these poor-flowering strains that have given the whole species its undeserved reputation for tardiness, and commercial growers who propagate and distribute inferior forms are doing their customers and the species a real disservice. The trouble is that the distribution of poor forms is likely to continue or even to increase because two of the three worst flowerers are healthy growers and are most prolific in their offset production; whereas the excellent strain E produced only four smallish offsets from six mature bulbs in four years under good conditions — a hopeless proposition for the commercial grower.

Some strains (Lot C) appear to follow an inherent pattern of flowering every second year. The lean year follows a season of free flower production and prolific seed setting and is used to enable the bulb to build up its reserves for the following season. Presumably Lot C arrived after a year of rest or perhaps the flowers of the previous season had been cut early for marketing before they could set a crop of seed.

The oft-recorded statement that *Nerine sarniensis* resents disturbance and so will not flower the year it is moved does not seem to be generally true. Under the conditions of my experiment it can be seen that if bulbs of a good strain which have reached flowering size are planted in rich soil at the correct time and given proper care a surprising number will flower the first year, as in Lots C and E for example. The surprising lack of first year flowers in the excellent strain F was caused by the shrivelled condition of the bulbs when received. When bulbs have been well-fed and acclimatised to their flowering site one would expect the numbers of flowers to increase each year. This is what took place, but there was something of a levelling out during the third and fourth years. Some mature bulbs from which flowers were expected broke down to produce offsets instead, and by the fourth year the picture became complicated by the flowering of offsets, as for example in Lots I and J. These remarks refer to *N. sarniensis* only, for I have found quite a marked falling-off of flowering in the first year after transfer to fresh ground with such species as *N. bowdenii* and *N. flexuosa.*

One frequently reads that to flower freely nerines must become crowded and tightly root-bound. My experience under South African conditions conflicts with this dictum for I have found that my plants flower more freely in the open ground than they do in pots and they do not seem to resent being spaced 4 to 5 inches apart in rows 10 inches apart. On the contrary, they seem to enjoy it. Yet I must confess that I have lost several valuable pot-grown hybrids through over-potting, especially with small or not very vigorous varieties. Pot plants seem to require a great deal more watering than plants in open beds and this extra water soon turns the soil sour unless roots penetrate the potting-soil rapidly before sourness develops. It is a mistake to overcrowd pots so much that most of the bulbs remain in a half-starved state for years so that they seldom get the chance of forming the six leaves usually needed to ensure a flowering stem the following year. The ideal is to have a few bulbs in a smallish pot containing a fertile, freely-draining compost and to repot before overcrowding causes a falling off of flowers.

The experiment confirmed the free-flowering properties of the Caledon form of *N. humilis* which produced more flowers than the best strains of *sarniensis*. Even more spectacular was the performance of the old hybrid Nerine x "Gaiety" which can always be relied upon to produce masses of flowers year after year. In proportion to the number of its bulbs (three only) it produced more flowers than any of the other varieties tested. In my experience many hybrid nerines are more free-flowering than their species-parents. Some owe this property to their undoubted hybrid vigour; others owe it to their complete or partial sterility which prevents the exhausting process of seed setting: but there are other seed-setting hybrids which are reliably floriferous, because they are the end-product of years of careful selection by breeders who were aiming to produce a beautiful and a free-flowering hybrid. As the good hybrids which contain this property (many beautiful varieties do not possess it, alas) become more widely distributed, I am sure this exquisite beauty will become increasingly popular in the greenhouses of cold countries and in the open garden in countries with warmer and sunnier climates.

MISS EDITH L. STEPHENS

Miss Edith Stephens, who unobtrusively slipped away from a rich and full life after a few days' illness early this month, leaves a gap in many lives. Her many friends and scientific colleagues would all agree that the loss is not alone in the field of science, but even more in the gift of friendship.

Miss Stephens made the collection of data on the local varieties of fungi her special interest, owing to the frustration she experienced at being unable to name or describe the specimens brought to her by students, since no one had ever done any work on them. In 1948 she persuaded Professor Arthur Pearson of the British Museum to come and stay with her, where he was able to name most of the species she collected. Since then she had been naming and classifying any new species brought to her. Her work resulted in the publication of two slender volumes on edible and poisonous fungi of South Africa.

Her scientific output might have seemed slight, but it was all directed towards her object of completing a satisfactory work on the fungi. But so much of herself was given to so many worthwhile causes, that time and again her research was set aside for more urgent calls on her time. Nevertheless, numerous important pieces of research were published by her in the Annals of the Botanical Society, the South African Royal Society and the South African Journal of Science.

In 1957 the Cape Tercentenary Foundation awarded R800 to Miss Stephens for outstanding work done in the preservation of natural flora or fauna of the Cape. All of this award she used to help pay off the priee of a strip of vlei land in the Phillipi area, including the Isoetes Vlei, which she then presented to Kirstenbosch for a nature reserve.

From the *Cape Times*

Two "Proteaologists" in California

W. J. Middelmann

Newlands, Cape

Readers of this Journal may remember an account of our trip through the Transvaal and Natal in search of not only their endemic protea species but of the fate of our cultivated Cape protea species up there.

Well, as "Proteaologists" my wife and I have long been intrigued with how our Cape plants, specially the proteas and ericas will do in other parts of the world. Correspondence about flowers, plants and seeds has brought us in touch with enthusiasts in many lands. Questions arise on climates and soils, on adaptability to conditions different from the habitat.

Much hearsay causes confusion. I had seen a newspaper headline "Proteas bloom better in California than in Kirstenbosch". There had been rumours of a big protea flower "industry" in the process of being built up there, possibly in competition with hoped-for South African protea flower exports.

Undoubtedly years of patient work by Kirstenbosch, publicity at exhibitions, the spread of this Journal and finally the visitors during the 1963 Jubilee have all contributed to enormous interest in our flora. Thus I felt that American audiences might be keen on lectures in various suitable centres, to see colour slides and to get a firsthand account from a grower, put their questions and show us their achievements—or failures. Eventually we arranged for fifteen such talks.

It was shattering though, on arrival in New York, to be told by a prominent horticulturist that the general public would "not know the difference between proteas and proteins" and that I should entitle the talk "The Showiest Flowers on Earth". At least, though to me immodest, that was a compliment to our flowers!

Owing to our work keeping us over-busy in the southern winter here we had to travel during November to February and take account of American winter conditions in planning the route. It was our object to see as much as possible of Botanic Gardens and Institutions as well as of private horticulture, nurseries etc. Talks and slide shows had kindly been arranged at such venerable places as the Massachusetts Horticultural Society, Boston (with the recently "rediscovered" Baron von Ludwig, of Cape Town, one of its members as far back as 1830!) and Harvard University/Arnold Arboretum, Cambridge, Mass. The world-famous "glass flower" collection in their Museum is magnificent but does not contain a reproduction of a protea flower though we saw quite a good life-size model made of plastic in the Chicago Natural History Museum.

We travelled through a large part of the United States by that incredible travel bargain, the "$99 for 99 days" Bus ticket, fast, comfortable, reliable, and through its very cheapness helping to meet some high expense in other directions. Our stops were fixed according mainly to lecture dates. Near Chicago for instance the Lake Forest Garden Club had put on our show and I am pleased to say that no less than three of its members have since been to Cape Town to see for themselves! A visit to the unique "Climatron" at the Missouri Botanic Gardens, St. Louis, followed. After that Denver, Colorado, Seattle and Washington welcomed us at their respective Botanic Gardens and Arboretums. We also had a lovely (and lively) evening with the Victoria Horticultural Society in Victoria, B.C., Canada, with many most congenial souls present. Everywhere hospitality was showered on us. Personal contacts with South Africa in horticulture and botany have up till recently been rare. We have been more centred on Britain and Europe but modern fast travel widens connections.

As we went down the Pacific coast, through the splendid forests of Washington and Oregon and then the incredible Redwoods the climate got milder and milder. Orchards and vineyards greeted us near San Francisco and more and more often one of us told the other: "See, it looks just like the Cape". This refers both to the formation of the landscape and to the vegetative cover anywhere along the Californian coastline in particular. We were soon to find out, however, that there is much that is very different below the superficial similarities. Many of the soils of that area are very alkaline for instance, and much of the water used is the same, coming from far away, mostly the Colorado River system, and highly mineralised. "Chaparral" is the word used to describe the highly inflammable hillside vegetation, totally different from ours in species yet very similar in general appearance (but for all our flowering shrubs) and intermixed often, just as here, with so many Eucalypts from Australia. Our succulents are widely used too. "Hotnotsvye" have "gone native" in California and are found all over, though more particularly they are used on road embankments and as "fire resistant" plant strips.

San Francisco's California Horticultural Society gave us a hearing before a large audience with quite a few people who had themselves worked with protea species but even more with ericas. We found the largest collection of individual proteaceous species in the U.S. on a sunny windy hill the other side of the Bay, on a doctor's estate. The soils seemed astonishingly heavy though they are well drained and proteas have been grown there for 18 years. They even set fertile seed. Berkely University's Botanic Gardens have an "African Hill", a bit of a problem I feel trying to combine conditions for proteas and ericas with those for, say *Aloe dichotoma* and desert plants. The pH here is 7, not too bad, but for the water it is 8 to 9; temperatures may go down to 23°F and there is a lot of fog in San Francisco Bay during summer. Undoubtedly the fine efforts of the Strybing Arboretum where we saw *Protea compacta*, *P. longiflora* and *P. susannae* actually in bloom at that time suffer somewhat from excessive summer humidity and perhaps too little strong sunlight. A real joy was a visit to a private nursery, similar to our own, where a wide range of South African ericas obviously thrived. Careful observations are being made as to hardiness in particular, for larger scale local growing. To our amazement we found, north and south of San Francisco, an extensive erica cut flower industry, altogether over 100 acres under mostly hybrid species which must be of combined European and South African origin, closely cultivated in rows and flowering just for the Christmas trade. Not only that, one firm alone produces 300,000 flowering heath plants a year in 4-in. square plastic pots, for sale in supermarkets, all of it of course from cuttings and showing what scope there is in a large consumer market.

Next step was Santa Cruz, 60 miles south. While the weather had been remarkably favourable almost all the way for that time of the year, here we got into real Cape winter rains. Once again we were warmly welcomed with true American hospitality, this time by a friend who is seriously trying to make protea flowers a commercial proposition. Thorough analysis of soils, climate, water has led him to this spot but it seemed that summer humidity here, too, was a bit excessive. The plants appeared rather soft to us, balled, curly, weak stemmed. An interesting feature was the fact that some of his seed stemmed from New Zealand. Water moulds and fungus disease seem a bugbear and with all the scientific handling, soil sterilisation, soilless germination trays etc., there continued to be difficulties.

Thence to our main object, Southern California where we had intended making Los Angeles our base. That sprawling octopus of suburbs without a dominating City centre, with enormous freeways as its tentacles, is situated on the same latitude, 34°, north as Cape Town is south and no wonder many people had expected conditions to repeat themselves. "Proteas are dead here, there is no further interest" is what I was told by a horticultural friend on the first day. And yet, when the Arboretum, at the worst time of the year for an audience, during the Christmas/New Year holidays laid on a special "Seminar", invitation by phone only, 83 people turned up and the venue had to be shifted to the main lecture hall. So they had not given up all hope, had accepted the challenge and wanted to hear what we thought as to why things had gone wrong.

Having seen a good many people and places during our four weeks there, one impression stood out. It seemed that the majority of intending growers had thought on the lines of "Proteas — Africa — Jungle" ("Are you a missionary down there?"; I had been asked that seriously on a number of occasions), i.e. hot/humid requirements. In any case, on the sprinkler irrigated, highly alkaline, often heavy clay soils of this area, Los Angeles gardeners seem to aim at subtropical paradises of bananas, bromeliads, orchids, with tree ferns and cycads thrown in for good measure. So they treated their proteas accordingly, pampering them unduly, trying to raise seeds on a preferably heated bench under mistspray in an oil heated hothouse. No wonder they either damped off or petered out soon afterwards as spindly, pale weaklings or just did not germinate.

With lavish hospitality from the friends we made there we had been taken around to the magnificent cactus and succulent collections and parks of the Huntington Gardens, to the State and County Arboretum, to the new South Coast Botanic Garden being created on 100 feet of the City's rubbish, Descanso Gardens with its camellias under native oaks and to Rancho Santa Ana Botanic Gardens which caters exclusively for the indigenous Californian flora. It seemed to us obvious that there must be parallels between the raising of their local hillside shrubs and ours. There too was a winter rainfall area, rather sparser precipitation though, and with frost dangers, but there too it gets very dry, in summer even drier and much hotter than here. We felt convinced that if they would try to raise their proteas under less artificial conditions they would be more successful provided they could avoid or attend to the excessive alkalinity of soil and water (both pH 9!) and protect against snap frosts which occur anywhere, even very near the coast. I was able to find a few lines to quote from one of their books on the California native flora about seeds, germination and growing on of seedlings which fitted exactly our way of doing the proteas here. People were astounded!

We went to Santa Barbara, the spot with the mildest climate of that coast north of Los Angeles and the only one I think which for beauty matches some of our Cape area. In the magnificent Dickinson Estate we saw their large silvertree groves, self-perpetuating and with foliage and seed disposed of commercially. They grow there with Strelitzias, Veltheimias, Zantedeschia and other South African plants, yet under shrubs after watering you will find a white powdery deposit of alkaline salts crystallised out as if somebody had put DDT powder there. *Protea susannae*, *P. longiflora*, *P. latifolia*, *P. mundii* and *Leucadendron argenteum*, also to some extent *Leucospermum nutans* and *L. reflexum* which we saw in Santa Barbara too (the former flowering) have apparently the greatest lime tolerance, even more so than *P. obtusifolia* which we normally place under that label. We saw silvertrees in many places in Southern California but to say, going back to where I started, that "Proteas bloom better . . . " is just not true! One freak should be mentioned here though. There is a huge *L. nutans* plant, 15 years old, in a little valley near Pacific Palisades, at the sea end of Sunset Boulevard of Hollywood fame, which flowers profusely *twice* yearly. There the Yanks have got us beat!

Santa Barbara also has the nearest thing to Kirstenbosch the U.S. can offer, its "native" Botanic Garden. Not very large but situated on a mountain slope as we are here, devoted to the indigenous flora only, a very lovely place. There had just been a bush fire outside the Gardens and the appearance was exactly as freshly burnt slopes look here except for the ghastly skeletons of some charred wood frame houses.

We did not omit, in the Los Angeles area, some of the huge nursery organisations, highly mechanised and streamlined and turning over millions of plants a year, in individual containers or in "flats", a manifestation of the tremendous marketing possibilities over there.

The climax was yet to come. Ninety-five miles south of Los Angeles, in one of the coastal valleys, is an area of decomposed granite soils, just slightly acid and with a somewhat better quality water supply than further north. We proceeded inland, not far from La Jolla/San Diego. Perhaps this is the equivalent of Worcester for latitude and the hillsides looked like Lions Head here at the Cape, with the same rounded granite boulders surrounded by "fynbos"-like Chaparral. One difference though, they are less precipitous and more dry. Even though it was winter, the colouring was almost Karoo-like. Here we saw the best stand of proteaceous plants in Southern California, ranging from magnificently even germination in seed frames (in the open air, no fancy treatment!) to three-year-old shrubs just flowering for the first time. *Protea incompta, P. latifolia and P. obtusifolia* were among them in addition to the other species mentioned earlier. Some of the oldest shrubs had been sickly seedlings when first raised in Los Angeles and had here turned into sturdy little trees. It appears that there are only a few very limited sites of this type in the whole State of California and that even here there is yet a further factor to be reckoned with namely sudden deep frost. A neighbour only two miles away had lost most of his seedlings due to this. I had no idea of the number of very strongly varying micro climates in Southern California, of the nearness of the desert (35 miles from Los Angeles City Hall) nor of the height of the mountains (peaks 11,000 to 13,000 feet just 40 miles from the sea).

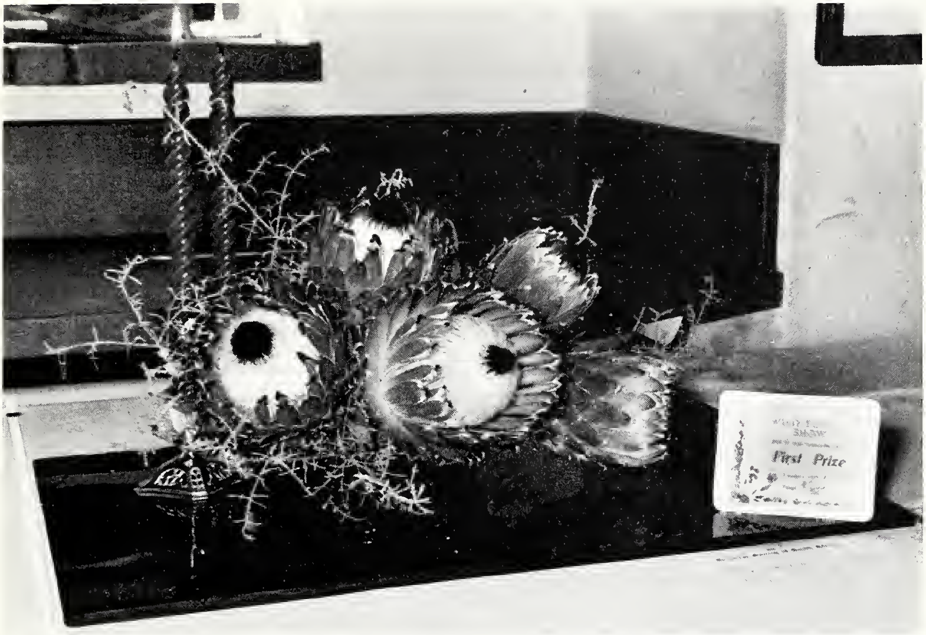
I was given the opportunity to sum up impressions at the Southern California Institute of Horticulture's Annual Banquet and also to hear, from the originator sitting next to me, the fascinating story of the introduction of *Strelitzia reginae* (now the civic flower of Los Angeles). With some perseverance I think we had lined up almost every single person who grew or even had ever tried to grow proteas in that area and we made extensive notes about conditions and limitations. Coupling these with other similar details from non-endemic areas within Southern Africa and from Australia and New Zealand one will gradually be able to better evaluate the problems. A lot of research is needed. People ask about cuttings, about pollination, fertiliser or irrigation, work done about hybrids for the flower market and much else. We can only hope that as more members join our Botanical Society and more funds become available at Kirstenbosch more research will become possible both on the botanical and on the horticultural front.

A lasting impression has been the vast amount of work being done by various Universities and Institutes in the U.S.A. on their horticultural problems. Should proteas turn out to be more successful after all and become important economically even to just a small area then I feel sure they would also devote some of their facilities to the problems mentioned. I might add here that flower wholesalers both on the east and west coasts stressed that if we can eventually solve our technical and freight problems of how to put our protea flowers on oversea markets a possibly successful local protea industry in California should not be regarded as a competitor to be feared. On the contrary, they reckon that markets would be better prepared and supplies would supplement each other during the opposed seasons, with greater price stability resulting.

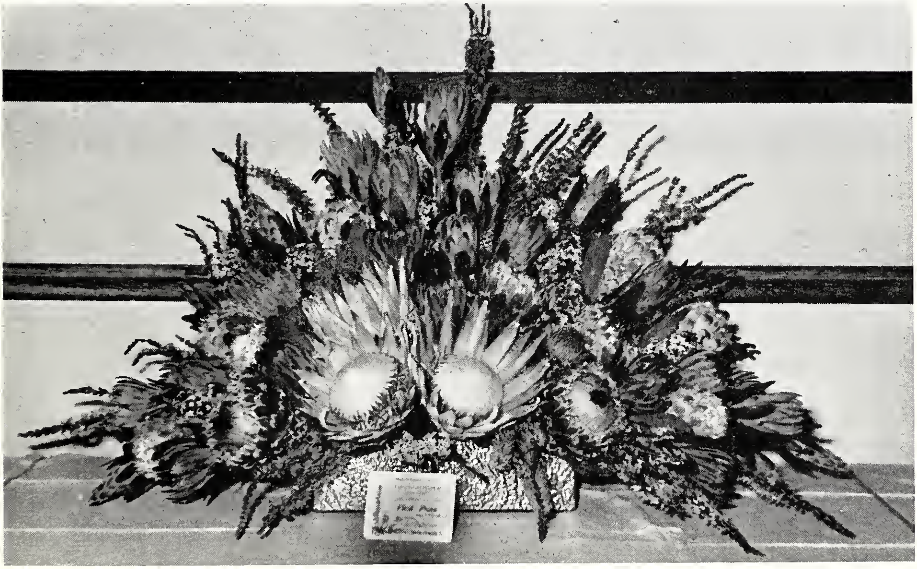
From Californian horticulture we dropped in for one night of gambling at Las Vegas. What a contrast! Thence via the magnificent Grand Canyon to picturesque Santa Fe and Albuquerque, New Mexico. The towers of downtown Dallas, Texas, rose starkly against the sparkling blue skies from a limitless plain where we spent a couple of days there in an area of extreme inland climatic contrasts. In Washington D.C. the National Arboretum had laid on another talk before an interested audience, jointly with the Washington Botanical Society. A visit to the Federal Horticultural Headquarters and the Plant Introduction Station at Beltsville, Maryland, was kindly arranged by the Agricultural Counsellor of the S.A. Embassy. Then one more stop on the "Protea" line: Longwood Gardens, not far from Philadelphia. Dr. Russell Seibert had been to Kirstenbosch in 1963 and they are very keen to solve the problems of growing Proteaceae under glass. Experiments are going on in houses with or without air movement, cool or warm, and soils are being investigated. So far the results are not yet up to what apparently seemed easy to the greenhouse cultivators in Europe in Joseph Knight's days at the beginning of the 19th century, we must hope that Longwood will rediscover the secret and that one day they will add a display, say of *Leucospermum nutans* in full flower, to those amazing indoor shows displayed—while outside the gardens are in deep frost under a blanket of snow.

The "Showiest Flowers on Earth" evening in New York ended our tour and it was a pleasure not only to have some actual flower specimens on exhibit specially flown over but also to find that there were two ex-Cape Town girls on the charming staff of Brooklyn Botanic Gardens.

If we achieved nothing else there must be a few more people in the United States who do know the difference between proteas and proteins!



Prize-winning exhibits at The Botanical Society's wild Flower Show, September, 1965.



This charming piece of embroidery by Mrs. E. M. Ereaut of Oudtshoorn, using Cape wild flowers for inspiration, was kindly lent by Mrs. H. G. Ashworth of Constantia, for the Kirstenbosch Exhibition held during the Fifth Birthday Republican festivities at the end of May, 1966.

Photograph: Commander E. F. Lawder, R.N. (Rtd.)

The Influence of Kirstenbosch in Australia

A NEWSLETTER FROM KING'S PARK, PERTH

DR. J. S. BEARD

Director, King's Park and Botanic Garden, Perth, Western Australia

ON 4 October 1965 the Premier of Western Australia, the Hon. David Brand, M.L.A., will officially open the new native plant Botanic Garden that has been in course of creation within King's Park for the past three years. Botanic Gardens dedicated to their local native flora are a new thing in Australia and this one in King's Park is one of the only two so far, and the first to be officially opened. The other is in Canberra. In view of this novelty, inspiration had to be sought from abroad, and while South Africa is not the only country that cultivates its native flora it is one of the best known and for various reasons it was South Africa which supplied the need. We have here in King's Park a South African Superintendent who was trained at Kirstenbosch. He was not born in South Africa but lived there for many years, and he inspired a general feeling of taking Kirstenbosch as our model. The relationship is heightened by the fact of our not being totally and exclusively limited to West Australian flora so that we are devoting sections to the display of plants from similar climates to our own. The West Australian Garden occupies 25 acres plus another 35 acres for an Arboretum of West Australian trees, but there are in addition two acres each for Californian, Mediterranean and South African flora. The South African Garden was partly planted up in 1964 and made a tremendous show of colour the first season.

We are happy to acknowledge our debt to the inspiration of Kirstenbosch. I myself when I was in South Africa, lived in Natal and was associated with the Pietermaritzburg Botanic Gardens but I was growing Cape flora in Natal and so looked to Kirstenbosch which I visited of course several times, the last occasion being just before I left for Australia when Dr. Rycroft let me spend two days studying the whole organisation. Our curator, or superintendent as we call him, who followed me over nine months later is Mr. Arthur Fairall who was originally trained at Kirstenbosch and worked there as a young man, going later into the municipal parks field. He was Director of Parks at Pietermaritzburg for eight years. His wife, Pauline, was before her marriage on the staff of the Compton Herbarium and is now doing great work for us as a part-time botanist, laying the foundations of a herbarium in King's Park and learning an entirely new flora. Further down the line we become more nationally diversified. Our nurseryman is a Swiss, trained partly at Kew, our seed collector is an Australian well versed in the ways of the "outback": two of our three foremen are Englishmen, one of them trained at Kew, and for gardeners we have to depend mainly on Englishmen or Italians, there being no training in horticulture previously available at all in Western Australia. We have had to take steps to remedy this, and this year have begun to give a three-year Certificate Course for students employed in the Park, with evening lectures. The syllabus is modelled on the South African N.T.C.

Perth has a climate virtually indistinguishable from that of Cape Town though the rainfall of 36 inches is less than that of Kirstenbosch. We are slightly further north and not quite so close to the south-west extremity of the continent, nor have we any mountains. After South Africa, Australia is appallingly flat, the interior being a low plateau reminiscent of the Transvaal which stretches endlessly on and on. Only on the South Coast does the Stirling

Range, 50 miles long and rising to 3,300 feet, provide a faint echo of the Outeniqua Mountains. The coastal plain around Perth is like the Cape Flats, just sand. All King's Park is on sand, former coastal dunes, with limestone some 50 feet down.

We range all over the state collecting propagating material for the Botanic Garden and this involves a lot of travelling owing to the enormous size of the country. The State of Western Australia in area is exactly twice the size of the Republic of South Africa and it is more than 2,000 miles by road from Perth to Wyndham in the north-eastern corner. Nearly all of this huge area is uninhabited desert, and the total population is under a million. We are very thin on the ground and our resources are correspondingly limited. In Botany for example, there is one university botany department, one State Herbarium, now one botanic garden and outside these one amateur and one retired professional botanist. Contrast South Africa's manpower resources! On the other hand the flora, while highly endemic, is nothing like so numerous, less than 6,000 species as against 16,000 in South Africa. This at least reduces the work! Unfortunately the extremely low population density in botanists, about one per 80,000 square miles, means that while much work has manifestly been done, vastly more is badly needed in every field. The State has no published flora and only one brief general account of the vegetation. In order to plan the Botanic Garden at all we had to find out first what our plants were going to look like, and as there were few sources from which this could be looked up, it was done by summarising the data on collectors' labels in the State Herbarium. In this way we compiled a catalogue giving for every known species in the flora its name, form, height, flower colour, flowering months and localities of occurrence. This was a formidable task but without it we could not have moved. This catalogue is now being published.

The South African Garden got off to an excellent start thanks to seed supplied by Kirstenbosch, by private suppliers, notably our good friend Mrs. Ruth Middelmann, and by other botanic gardens. In two seasons' planting we have put out to date 11,760 plants excluding annuals, these representing 159 identified species. The site is on the summit of Mt. Eliza, with a south-easterly aspect. It is only 180 feet above sea level, but this is quite enough to enable it to command panoramic views over the Swan River. The Garden is alongside one of the drives, and is traversed by grass paths with rock edgings. Stocking is at present mainly of herbaceous perennials with massed annuals in season. Most bulbs do extremely well here, particularly some species of Watsonia, Freesia, Gladiolus, Antholyza and Babiana—all of which have "escaped" and are to be found in abundance in the Perth area and southwards down to Albany.

Of the trees, *Virgilia oroboides* grows and flowers well and the Cape Chestnut is fairly successful in heavy soils. With others it is still too early to tell as many of them have not been tried in these parts before. "Mesems" and annuals of course are perfectly at home in most parts of the state.

Our greatest sorrow is that so far we cannot grow Proteas. *Protea mellifera* (*P. repens*) was known in Perth, and very rarely *P. cynaroides*, but no others. *Leucadendron argenteum* does very well. We quickly imported seed of many species of Protea, Leucospermum and Leueadendron and raised a good stock of plants which performed excellently in the nursery, but failed to thrive when transferred to the open garden. Almost all in fact have gradually died and only *Protea obtusifolia*, *Leucospermum nutans* and *L. conocarpum* show any disposition to survive. The first two are at present flowering. There is clearly no climatic reason for this lack of success, early vigour in the nursery seems to rule out mycorrhizal deficiency, and it therefore seems to be a soil factor in the open garden which is antagonistic. I am inclined to suppose that the plants cannot grow in coarse sand and that loam will have to be added to planting sites. This at any rate will now be tried.

SOUTH AFRICAN GARDEN, KING'S PARK

Identified species of South African plants in cultivation in the King's Park Botanic Garden.

- Aloe ferox
  - chabaudi
  - excelsa
  - saponaria
  - greenii
  - brevifolia
  - globuligemma
  - litoralis
  - rubrolutea
  - karasbergensis
  - cryptoda
  - sessiflora
  - arborescens
  - cooperi
- Adenandra fragrans
- Agapanthus pendulus
- Acacia karoo
  - albida
- Antholyza ruigeus
- Anomalesia cunonia
- Arctotis acaulis
  - stoechadifolia
- Aristea thyrsiflora
  - ecklonii
- Aulax pinifolia
- Bolusanthus speciosus
- Bauhinia punctata
- Barleria obtusa
- Bulbinella robusta
- Burchellia bubalina
- Calodendron capense
- Crassula falcata
- Chrysocoma coma-aurea
- Carissa grandiflora
- Calpurnia sylvatica
- Dais continifolius
- Drosanthemum floribundum
  - oculatum
- Dimorphotheca aurantiaca
  - ecklonis
- Diascia barbarae
  - glomerata
- Dierama igneum
  - pendulum
- Erica baccans
  - macowanii
  - peziza
  - veridipurpurea
  - mammosa
- Erica perspicua
  - taxifolia
  - hirtiflora
  - diaphana
- Erythrina humeana
- Eucomis undulata
- Felicia amelloides
  - augustifolia
- Gerbera jamesonii
- Gamolepis chrysanthemoides
- Greyia radlkoferi
- Grewia occidentalis
- Gazania pinnata
- Gynura aurantiaca
- Gardenia coronata
- Galtonia candicans
- Gladiolus blandus
  - rogersii
  - pulchella
  - laugustus
- Hibiscus elatus
- Hallekia lucida
- Helichrysum fulgidum
  - scoparium
- Iboza riparia
- Kiggelaria africana
- Kniphofia uvaria
  - nobilis
  - tuckii
  - nelsonii
  - maeowanii
  - foliosa
  - natalensis
  - rubra
- Kirkia acuminata
- Leucospermum muirii
  - lineare
  - conocarpum
  - reflexum
  - bolusii
  - nutans
- Lampranthus brownii
  - falciformis
  - glaucus
  - roseus
  - fervus
  - conspicuus
  - lunatus
  - auranticum
- Lampranthus formosus
  - blandus
- Leonotis leonurus
  - nepetaefolia
- Lachenalia mutabilis
  - pendula
  - violacea
  - pallida
- Moraea iridioides
- Milletia caffra
- Malvastrum scabrosum
- Nemesia strumosa
- Nerine filifolia
- Ochna multiflora
- Podalyria sericea
  - calyptrata
- Portulacaria afra
- Phygelius capensis
- Pelargonium peltatum
  - zonale
  - grandiflorum
- Phoenocoma prolifera
- Plectranthus inaequianthus
- Protea barbigera
  - scolymocephala
- Peltophorum africanum
- Paranomus reflexus
- Rothmannia globosa
- Sutherlandia frutescens
- Strelitzia reginae
- Schotia brachypetala
- Senecio elegans
- Serruria florida
  - artemisiaefolia
- Sutera grandiflora
- Sparaxis bulbifera
  - pillansii
- Tephrosia grandiflora
- Virgilia oroboides
  - divaricata
- Watsonia pyramidata
  - spectabilis
  - comptonii
  - meriana
  - van der Spuyae
  - marginata
  - fourcadei
  - aletroides
  - rubida

Note—There are a number of species still to be identified.

The Changing Character of the Wilds in Johannesburg

—V. L. Bishendon

Committee Member of Botanical Society's Transvaal Branch

THREE years ago, work started on a new through highway, dividing The Wilds. In planning this double road, engineers gave no thought to the preservation of as many natural features as possible. The road just had to be completely re-made, straightened and widened, with massive islands, using the maximum amount of space.

Work was held up while getting permission from the Government to remove nine Widdringtonia trees, now proclaimed national monuments.

Consequently, nearing completion, there are bare rock cliffs, high embankments and wide traffic islands, all to bc beautified and softened with natural vegetation. This challenge is being met with a big re-landscaping programme. The modern use of ground cover plants, of which *Arctotheca calendula* is the most outstanding. The bare rock cliff is to become an Aloe garden, and the embankments, grass slopes with outcrops of rock.

But out of this chaos, came the suggestion of a handsome gift from the Johannesburg Consolidated Industries Limited, the original donors of The Wilds, to commemmorate their own 75th birthday. Feeling rather sad about the loss caused by road encroachment, they suggested giving aid to benefit in some other way, and agreed to provide the necessary funds for a large display house, giving shelter to plants unable to grow out of doors, together with space for a herbarium and office.

A problem arose as to where this building could be situated without intruding in this 53 acres of natural steep, rocky, hill slope, so we decided to build it near the Parktown boundary, next to the existing plant nursery. The position is high and looks inaccessible, but fortunately it will be possible to make a driveway up some of the slope to a small car park near the top. From there we plan a pathway with steps leading to a terrace. This is to be the lecture point and the front entrance into the Conservatory.

The building itself is planned by one of the City Architects, designed in four sections, placed on different levels. Only one section, the first, is to be glassed in, as this is to be the orchid and fern house in which water will gush over rocks into pools. The next house, at a higher level, will be aquatic, backed with low veld shrubs. From there the visitor will walk through to a drier area, just covered with plastic material, allowing maximum light and sides of metal grids, strong enough to keep the public out when it is closed. The fourth section will be arid and contain a natural desert garden.

The whole idea, although not a "climatorium" as found in the United States, will have sections of different climates, permitting the culture of a much greater species of plants.

The architecture is most original and different from the conventional glasshouse. The building itself is supported by laminated timbers with a very wide overhang of roof, giving protection over a wide area, from rain and frost.

Joining the building, there will be a herbarium, where specimens collected by Mr. L. N. Prosser during his period at The Wilds, can be properly housed — this will be added to, providing material for classification and research.

NOTE BY EDITOR

The Wilds is a public garden in Johannesburg devoted to the cultivation of indigenous plants. See also Tribute to Gwen Edwards.

Disa grandiflora and Its Hybrids

GEORGE BORNEMANN

An original article published in "The Garden World" Germany, 1907

Nurseryman, Blanckenburg am Harz

ONE of the most beautiful and at the same time interesting orchids is *Disa grandiflora.* Of the three petals of the outer circle, the two lower ones are a completely unique saffron red. The upper salmon shade petal is cowl-shaped with a long tip.

The fairly large flower is durable and keeps well.

In spite of their many good qualities, they are seldom cultivated because they cling stubbornly to their natural environment, the soggy ravines of Table Mountain. Because of this they must be kept in a cold house, and they demand a maximum of humidity, fresh air and light, and at the same time protection from direct sunlight.

The growing period is in the winter and begins in November. The greatest obstacle in growing Disas is their sensitivity to artificial heat. The flowering period begins in May and lasts until August, after which there is a period of rest, during which time, however, the need for air and soil moisture does not decrease.

The soil must be quite porous, a rough mixture of heath soil, peat, moss and charcoal, and a generous addition of quartz sand is recommended.

Aside from this highly colourful and magnificent disa, her modest but more proliferous sisters are seldom imported. The firm of J. Veitch & Sons, London, succeeded in crossing it with *D. racemosa* and in producing the beautiful *D. veitchi*, and from a crossing with *D. tripetaloides*, the smaller-bloomed *D. kewensis* was brought into existence at Kew Gardens

With the aim of producing more resistant, multifloral yet at the same time large floral hybrids, I crossed these two with *D. grandiflora.* The latter was used as mother and I had the pleasure from the pollination with *D. kewensis* of obtaining a few hundred seedlings, of which already within the third year a large proportion developed blooms. These were all different in their shading; orange and carmosine as shown on the colour chart with the individual shades dominating, but there were also soft pink and flesh-coloured blooms among them, also yellow streaked with red. It is a pageant of colours such as one finds only among the Masdevallien.

From the crossing with *D. veitchi* I obtained a smaller number of seedlings. The blooms of these are characterised by pink and violet shades and their impressive size, but at the same time they are not as prolific as the previously named hybrids.

My attempts to grow other types with which to continue my cultivating efforts were not successful. Should a reader of the *Gartenwelt* be instrumental in helping me to succeed in this effort, I would be most grateful.

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*See "Some Cultural Notes on Disa Unifiora" by G. M. L. Feinhauer, Botanical Society Journal Part XLIX, 1963.

Where Have All the Flowers Gone?

ERNEST LIPWORTH

With acknowledgements to "The Transvaal Gardener"

A VISIT to Kirstenbosch in May this year gave rise to some thoughts and ideas which might also be of interest to some readers.

At that time of the year there are very few flowers there. Perhaps a faded protea here, a few daisies there, and some badly faded blooms on some shrubs somewhere else. The facetious thought occurred to me, that only nuts in May go to Kirstenbosch. Then I looked up at the magnificent mountain that forms a background to the scene, and I felt ashamed of my facetiousness.

I walked along the paths that lead towards the mountain, and the atmosphere of the place began to pour into me and over me.

Those who know Kirstenbosch will recall the part where the ferns are, the stepping stones, Skeleton Gorge (a misleading melodramatic name for a place of quiet beauty), the protea walks and finally the spot chosen for the grave of the founder.

I felt very moved and grateful that there were no flowers to speak of—just a great feeling of peace and serene calm. The utterly heretical thought came into my mind that the more we know about gardening the less of nature we appreciate.

An ordinary person looks at the beauty of a flower and the botanist wonders which species it is. (Is this the real meaning of the Bible Story that by eating of the tree of knowledge Man lost the happy innocence of the Garden of Eden?) The man in the street enthuses over his few well-loved specimens while the park designer likes to have masses and masses of flowers which, if examined individually, are often very mediocre.

This brought me to my next train of thought. Are the Japanese right? Are masses of colourful bedding plants vulgar? Is not the idea of a garden to create a peaceful orderly haven where one is led to meditate on higher things?

"Very interesting," you might say, "but what relevance has it to us? Even Capetonians can't live in Kirstenbosch." Simply this. If you have a large enough space try and create a secluded spot where you can get away from it all and looking at some quietly peaceful vista or perhaps a noble specimen tree you can take time off from the maddening medley of material problems.

Even in a small garden you can take time off now and again from thinking about what you have done, what you are doing and what you should be doing to sit down and find peace not problems, enjoyment not duties, relaxation not work (pleasant as this may be).

As the poet says:

"What is this life if full of care
We have no time to stand and stare?"

News Letters and Requests from Overseas Members

Mr. Ronald Smith, Melrose Abbey Gardens, Melrose, Roxburghshire, Scotland.

I AM indeed grateful to the Botanical Society of South Africa, for this opportunity to pen a few notes, about this show garden, run by Her Majesty's Government, here at Melrose Abbey.

The garden (no more than half a Scottish acre, 3,000 sq. yds.) is situated beside Scotland's most beautiful monastic ruin, steeped in legend and history, dating back to its founder, David I of Scotland in 1136. The whole scene nestles in the valley of the River Tweed, below the triple peaks of the Eildon Hills.

As these notes are being written in mid-January, the temperature outside is 20° frost, with just a slight mantle of snow beautifying the dormant countryside. In two weeks' time, seed sowing under glass will be upon us, and will continue into the month of May. Bedding schemes are draughted in winter time, and put into practice from June onwards. The fruits of our labours are seen to advantage from July to October, the picture created, gives thousands of visitors year after year, great pleasure to see flowers grown from all over the world, and especially South Africa. Visitors are indeed amazed that flowers from the tropical regions can be grown in these Northern temperate regions.

Flowers from South Africa which cause most comment, delight and admiration are Dimorphotheca, Venidium, Portulaca, and of course, Geraniums. I am asked more questions concerning these annuals than any other. For myself, I find they are amongst the easiest of the whole range of flowers grown here, from planting out to flowering, takes about four weeks. They are pricked out in peat pots with a peat/sand mixture (ratio 50/50) with the addition of the necessary fertilizers. This compost suits them admirably. Plants receive no check to growth, when bedding out, and the need for watering in is abolished.

In the greenhouses, there are shrubs from many countries: Bougainvillea, Passiflora, Costrum, Fuchsia, Eucalyptus, Plumbago, Hoya, Streptosolen, Heliotropium, Crinum Lily, Hibiscus, Tibouchina, Gesnerias, Physalis (Cape Gooseberry, makes delightful jelly this), all magnificently garlanded in summer and filling the air with tropical aroma.

Any intending visitors from your country will be made most welcome at any time; the gardens are open May–September from 8 a.m. to 7 p.m. every day. Melrose is directly south of Edinburgh, a distance of 40 miles, one hour by car or train, by car route No. 68. Conducted day tours by bus of the Scott Country are run every day from Edinburgh taking in Dryburgh Abbey, Melrose Abbey and Abbottsford, the home of Sir Walter Scott, the celebrated Scottish novelist of yesteryear.

I do hope your journey is worthwhile.

Mr. J. A. Hart, 23 St. John's Close, Rudheath, Northwick, Cheshire.

MY small garden in Cheshire, N.W. England, is mainly composed of raised beds edged with stone, wherein I grow Alpines, dwarf shrubs, and a variety of bulbs; two modest greenhouses containing succulent plants, a few alpines which do not like our damp winter weather, and several pots of bulbous subjects complete the picture.

Due to limited space I try to specialise and grow only those plants which really appeal to me. Many of my succulent plants come from South Africa—the dwarf Crassulas I am particularly fond of, also the corpulent Euphorbias, in particular *E. horrida* var. *striata*, are my favourites. I also have the following species: *E. obesa*, *E. meloformis*, *E. suzzanae*, *E. gorgonis*, and *E. stellaespin*. I realize of course that some of them will grow taller with age. I also have several pans of Lithops, Conophytums and other genera in the Mesembryanthemaceae, many of them grown from seed.

In particular I like the odd types, the succulent Pelargoniums, *P. echinatum*, *P. populifolium*, *P. gibbosum*, and *P. saxifragioides* are some of mine, the Ceropigias, many of which are hard to obtain in England, the caudex-forming succulents Cissus, Fockea, Adenium etc. I am very proud of two small Testudinarias, grown from seed three years ago; already one is developing the typical cracks on its surface. Of the Scilla species which grow on the surface of the soil, only *S. violacifolia* and *S. pauciflora* are commonly seen in England, although I believe there are several others. I was very lucky to obtain two bulbs of *S. natalensis* last Autumn; they are just starting into growth at the moment (late February). *S. adlamii* is sold by some Alpine Nurseries, though I have never seen it growing in the open, only at Alpine Shows in pots.

Monadeniums are only occasionally seen. I have *M. stapelioides* which is beginning to branch and has flowered. The Stapeliads I am not too fond of, but I do grow several of the mat-forming types (Huernias, Duvalias etc.).

There are also Haworthias and Aloes. One in particular, *A. nubigena*, is hardly ever without a flower spike and has won several prizes at local N.C.S.S. Shows. I grow it suspended from the greenhouse roof in a 12-inch pan where it looks very effective when in full bloom. All these South African plants grow along with other succulents, including Cacti, from other parts of the world.

Also in the greenhouse I have a small collection of bulbs in pots, many of them from South Africa. In an 8-inch pot I have *Haemanthus albiflos* which flowers regularly every Autumn and is surrounded by offsets. The red berries I have successfully grown on into miniature replicas of the parent plant.

Because of its evergreen nature *H. albiflos* is one of the few bulbous plants regarded as being eligible for exhibition at N.C.S.S. Shows. H. Jacobsen, in his *Handbook of Succulent Plants* also lists *Ammocharis coranica* and *Drimia haworthioides*, why not then include other bulbs such as *Veltheimia vallota* or *Cyrtanthus spiralis*, Scillas etc. which also grow on the surface of the ground? I daresay there are several others which have the same mode of growth. How do South African gardeners classify the degree of succulence or non-succulence of these types of bulbs? I would be most interested to hear of their views.

In my greenhouse *Veltheimia capensis* is in full bloom by the end of January. The solitary bulb has this year decided to produce two growing points and is slowly growing into two separate bulbs with one offset as a bonus. I find no difficulty in its cultivation.

I have a large pot containing several mature bulbs of *Vallota speciosa* and many smaller ones. One or other of the bulbs is usually in flower from late September to the end of February. Both Veltheimia and Vallota flower at a very useful time of year for English gardeners.

A pale pink species of Tritonia which grows slowly over the winter and flowers in April is also very lovely and increases well. My last South African bulb in the greenhouse is *Drimiopsis maculata* which is interesting rather than beautiful and rarely seen outside botanical gardens.

Outside in the garden *Caltonia candicans* appears and flowers regularly. It is regarded as easy to grow in English gardens. I have grown *Curtonus paniculata* for three years in deep loamy soil in full sun, so far without a flower. The leaves increase in size each year, so I am still hoping.

Two other plants which I have are *Crinum x. powelii* and *Nerine bowdenii*. The first-mentioned has flowered only once and I think it will take a long time to settle down. It also requires protection in winter. *N. bowdenii* has flowered well for many years, increases well and is quite hardy, but if we have frosts of 20°F or more I usually cover them just to be on the safe side.

I hope to grow many more South African plants in time, particularly from seed and expect to add greatly to my knowledge through membership of your Society.

Mr. Robert e. Senior, The Old Rectory, Marazion, Cornwall, England, would like to correspond with other members of our Society with a view to exchanging notes on the cultivation of our indigenous plants in a cold, wet climate.

Dr. Shuichi Hirao, 3–14 Yamanone, Zushi, Kanagawa, Japan writes:

"If you or any one of your members would like to obtain seed of Japanese plants or Japanese publications, I shall be glad to help you and them".

Mr. Maurice C. Vyvyan of Maidstone, Kent, United Kingdom, mentions in a letter received recently:

"I was shown over part of the beautiful Kirstenbosch Gardens by Professor Pearson in June 1914, when passing through Cape Town on my way to Durban and again in September 1914 when I was in camp at Rondebosch as a trooper in the Natal Carbineers!"

Flowering plants of *Disa uniflora* which were grown from seed received from Kirstenbosch in 1963 by Mrs. Frances Bourdillon and Mr. Jack Ruck at Sandhurst, Gloucestershire, England, received an award of merit at the Orchid Society Show held in London during last June.

A judge from South Africa withheld a second award on account of the blooms having not more than two flowers.

HONARY LIFE MEMBERS

Dr. H. M. L. Bolus—*Cape Province*
Professor R. H. Compton—*Swaziland*
Miss E. M. Dixie—*Cape Province*
Dr. R. A. Dyer—*Transvaal*
Miss M. E. Johns—*Cape Province*
Dr. M. R. Levyns—*Cape Province*
Miss B. E. Martin—*Cape Province*
Mr. and Mrs. A. J. M. Middlemost—*Cape Province*
Mrs. E. E. Pearson—*England*
Mrs. O. M. Porter—*Cape Province*
Professor H. B. Rycroft—*Cape Province*
Mr. C. J. Sibbett—*Cape Province*

Gwendolen Edwards, B.Sc. 1888-1960.

GWENDOLEN EDWARDS B.Sc.

A Personal Tribute from her Friends

S. J. Dix

Miss Gwendolen Edwards, educationist and an ardent student of Botany, was born on 12 June 1888.

She attended school at the Wynberg High School for Girls, but later matriculated at the age of eighteen at the Good Hope Seminary in 1906.

At the age of sixteen she won first prize in a competition for a collection of pressed flowers and as a result became a protegé of Dr. Harry Bolus.

In December 1907 she passed the T3 Teachers Examination in the first grade, taking a very high place. During 1908 she underwent her training for the Second Teachers Exam, which she successfully completed at the end of the year. During the course of the same year, she studied both Cryptogamic and Phonerogamia Botany under Mr. W. T. Saxton of the South African College.

Her versatility as a teacher was shown by her following a course of instruction in Swedish Gymnastics for over four years. She was able to use her knowledge of this branch of physical education during the three and a quarter years she taught at Porterville in the Western Cape.

For the last term of 1909, she was appointed to a teaching post at Porterville, a village nestling at the foot of the Olifants River Mountains. In addition to being responsible for instruction in Botany in Standards VII to X, Miss Edwards had charge of English and History in these classes. In his testimonial of her, the head, Mr. H. van der Spuy, very rightly referred to the "satisfactory way in which she discharged her onerous and multifarious duties". She continued her work at Porterville until the end of 1912.

As a lad of fourteen and until I turned sixteen, I caught some of the contagious enthusiasm for Botany which Miss Gwen engendered in the hearts and minds of the school-going adolescents. Our textbook in those early days was Edmonds and Marloth's Elementary Botany. Wild flowers grew in great abundance on the hills and in the meadows around Porterville, except where the land had already been cleared to make room for wheatfields. The little town itself was picturesque, but for years suffered from a plethora of blue-gums, which lined the streets.

We went on many rambles with Miss Gwen and although she did not approve of indiscriminate uprooting of plants, yet we were allowed to procure whole specimens—root, stem and leaves for purposes of study only. Everywhere on the virgin veld, there were to be seen wide expanses of the various species of *Lachenalia*, *Ornithogalum* and orchids like *Pterygodium* and *Satyrium*. On the vleis east and west of the town Arums and Watsonia were plentiful. There were whole fields of Moraea, for example the species we children called Uiltjies (*M. villosa*) and the two known botanically as *M. papilionacea* and *M. augusta*. *Moraea edulis* was especially popular with the village children on account of its edible corms. How we all loved the scented *Gladiolus alatus* which always seemed to grow in the vicinity of Rhus-communities. Particularly plentiful were the Red Africander flowers (*Homoglossum watsonium*). Locally they were known as "uitsuiwertjies", because of the sweet nectar stored in the narrow perianth tubes. The smaller fry liked these Africanders, mostly on account of the nectar, for which they were prepared to destroy many blooms. Several species of Ixia (Klossies) were common at that time and so were the various species of Spiloxene, the star-shaped flowers, then known as Hypoxis. *Gethyllis afra* or Kukumakranka was much sought after on account of its sweetly scented fingerlike fruits. Towards evening we would notice how *Hesperantha falcata* (Aandblommetjie) and *Pelargonium triste* would shed their sweet perfume on the "desert air".

We came to know Miss Gwen as an ardent tree-planter and it was, I think, to celebrate the opening of the new school, that we were all roped in to plant rows upon rows of more blue-gums.

Then at the beginning of 1911, my last year at school, came the highlight of our excursions, when Miss Edwards took the Matric class over the western-most range of the Olifants River Mountains in order to make our acquaintance with the most spectacular of our orchids, *Disa uniflora.* I was never able to discover how Miss Gwen knew about their presence in this no-man's-land. Nobody seemed to live there except an occasional goatherd. But there on that hot summer's day, fringing the long dark silent pools, was this wonderful profusion of Disas. I could echo the sentiments of Keats who expressed himself thus in his poem:

"Then I felt like some watcher of the skies,
When a new planet swims into his ken".

Only on this occasion, it would have been more appropriate to change the wording somewhat:

"Then I felt like some watcher of the veld,
When a new "plant" swims into his ken".

None of the village children had ever come face to face with this floral wonder, therefore to them a new unfamiliar plant swam into their ken.

On the occasion of Dr. Harry's death in 1911, we had several talks in class from Miss Edwards on the life and work of Dr. Harry Bolus. While examining various papers and letters, kindly lent to me by Dr. L. Bolus, I came across a letter of condolence from Gwen, written at Porterville.

It was addressed to Miss Kensit as she then was. The latter was with Dr. Harry Bolus when he passed away in England. As evinced by the many letters which passed between Gwen and Mrs. Dr. Bolus from about this time, the bond of friendship between the two women had become very strong indeed, and lasted until the former passed away on 11 June 1960.

In 1913 Miss Edwards arrived in Cape Town to begin her studies in pure science at the South African College, afterwards to become the University of Cape Town. She took as her majors: Botany, Geology and Chemistry. By the time she was in her final and fourth year, I was a freshman at the same College. I still have a picture of her in my mind's eye in the old Chemistry Laboratory, now the Little Theatre, snatching bits of conversation while extracting crystals of an organic salt from her distillation apparatus. She pursued her studies with great success and was very fortunate indeed to have had as her mentor and professor that great botanist and founder of the Kirstenbosch Gardens, Dr. Harold Pearson. He was able to say this of her after four years: "She has proved a good student, has done well in class examinations, and has shown much interest in her work. Her practical work has been marked by neatness and thoroughness, her drawings being particularly clear and good".

Now began a very fruitful period for Miss Edwards, when she joined the staff of the Roedean School for Girls in Johannesburg. When visiting Kirstenbosch early in 1917, the joint principals of Roedean, Miss Lawrence and Miss Earl were inspired to reserve a portion of the School grounds as a sanctuary for native plants. To this end they devoted about three acres and when Gwen was appointed there in 1917 as Science mistress, a part of her duties was also to superintend the native garden.

During her thirty-one years at Roedean, she developed a botanical garden along the ridge of sandstone, which formed an outcrop throughout the length of the Roedean grounds. She corresponded and exchanged specimens with the Director of Kirstenbosch and other botanists of note, to all of whom she was well known.

Her researches led to the discovery of the following new species of plants which were named after her:

(i) *Conophytum edwardsiae*, possibly collected before she went to Roedean, but it flowered there in May 1917.

(ii) *Delospermum edwarsiae L. Bol.* collected in 1924 at Port St. Johns.

(iii) *Drosanthemum edwardsiae L. Bol.* found by G.E. at Great Brak River in 1931.

(iv) *Delosperma caespitosum L. Bol.* found by G.E. in December 1929 at Kentani, Qalora River mouth.

(v) *Lampranthus edwardsiae L. Bol.*

In addition to the above, Miss Edwards made drawings of the following plant preserved at the Bolus Herbarium: *Acmadenia obtusata Band W.* var. *macropetala Glover.* These were published in the annals of the Bolus Herbarium.

At a meeting of the Linnean Society of London, 28 February 1929, Professor C. E. Moss, D.Sc., of the Witwatersrand University, read a paper on: "Some natural hybrids of Clematis, Anemone and Gerbera from the Transvaal". He drew attention to the fact that in a few places near Johannesburg, occur numerous intermediates between the two very different species: *Clematis brachiata Thunb.* and *Clematis stanleyi, Hook.* "These intermediates" he said, "connect up all the distinguishing characters of the two plants". The speaker had no doubt that the intermediates are fertile natural hybrids, which cross with each other and with the putative parents. Professor Moss moreover proposed to name the whole series of hybrids in honour of Miss G. Edwards of Johannesburg who first drew his attention to them.

In 1946 Gwen was one of the small group of people who met under the chairmanship of Professor Philips in the Botany Lecture Theatre at the University of the Witwatersrand, to take the first step in launching the Arboricultural Society of South Africa, as the Tree Society was then known. From its inception Gwen Edwards was a staunch and enthusiastic supporter of the Society and until illness prevented her, was an active participant in all its activities.

It was while she was at Roedean that she was inspired with the idea of extending her conservation efforts to the adjoining koppies and she was one of the prime movers in persuading the City Council to establish the "Wilds", the indigenous garden of which the citizens of Johannesburg were justly proud. Gwen was frequently consulted during its development and on her retirement from Roedean in 1948, she was chosen as the first guide-lecturer at the newly established "Wilds". Since it had always been her passion to instil into others and particularly young people a love for and a knowledge of our indigenous flora comparable to her own, there could have been no better choice. Unfortunately illness forced her to give up this post after two years. This did not prevent her from attending functions of the "Tree Society" whenever possible and from regularly contributing her article to the journal *Trees in South Africa.*

At the committee meeting held in June 1960, it was decided to recommend that Gwen be elected an Honorary Life Member of the Tree Society in recognition of her sterling services to the Society. She was then too ill to know about this honour.

I am not at all sure about the date of Gwen's contribution of some Cycads to the Kirstenbosch Gardens. According to her sister, Miss Christabel Edwards, five cycads found by Gwen on a steep hillside at Keiskama Hoek (river mouth) and later planted by the Bath at the top of the fern gully were the first that Kirstenbosch received. Mrs. L. Bolus states that only one fine specimen of Cycad (Encephalartos) may be regarded as a monument to Gwen at Kirstenbosch. However, the story goes that these Cycads were dragged to the top of the hill by a team of oxen. Both Cycads and Gwen were then drawn by the same oxen to King William's Town, a distance of some 30 miles. From there they were forwarded in a special goods truck—carriage free—to Kirstenbosch.

Today the "Wilds" has become disfigured by a road which runs right through it, but there is some consolation in the thought that Gwen's conservation efforts will be preserved for posterity in the name given to the native sanctuary at Roedean viz. "The Gwen Edwards Koppie".

Gwen bore her last illness with amazing courage and cheerfulness. On 11 June 1960, she became unconscious and attended by her sister Christabel slipped away peacefully at 8.30 that evening.

After the cremation service at Pretoria, which was attended by many people who knew Gwen, including many from Roedean, an arrangement was made a little later, according to Gwen's wishes, whereby her ashes were strewn at a simple ceremony under the silver trees at Kirstenbosch.

According to the appreciation which appeared in the *Tree Journal*, her personality was such, that none who had met her could ever forget her and I for one count myself privileged to be among those who had known her.

BOOK REVIEWS

Richmond E. Harrison & Charles R. Harrison: *Know Your Trees and Shrubs.* Howard Timmins, Cape Town, 1965. 582 colour illustrations. R7.50

This is one of the most comprehensive and useful guide books I have seen on ornamental trees and shrubs which would take to our conditions in South Africa. It is written by Mr. R. E. Harrison and his son, Charles, who have a nursery business in Palmerston North, New Zealand, established in 1920.

More than anything else it is a pictorial guide, in full colour, 582 different species and varieties of ornamental trees and shrubs which are cultivated in New Zealand. It is, however, by no means a book only for New Zealanders because most of the plants do, or would, thrive in South Africa. For this reason it should be of particular interest to South African growers especially when it is realised that no less than 80 species indigenous to South Africa are included.

All the photographs, taken by the authors, are of plants growing in their own nursery or nearby. The fact that 80 South African species are included is proof of the horticultural contribution our country has made to other lands.

For each species there is an indication of its hardiness; that is, the degree of winter frost that each can withstand without undue damage. This should be of value to growers in the Transvaal and the Orange Free State.

The species are arranged alphabetically but there is also an index of the botanical and common names.

The production of this book has quite an international slant. It was written in New Zealand, printed in Japan and published in South Africa.

H. B. Rycroft

Dudley D'Ewes: *Leisure Gardening.* Howard Timmins, Cape Town, 1966. 23 blk. & whte. ill. R3.50

It is perhaps most fitting (or is it?) that I should be asked to review a book written by the President of our Society, who is also Chairman of the Board of Trustees of the National Botanic Gardens of South Africa.

The articles on Gardening by Dudley D'Ewes which appear regularly in South African and overseas newspapers and magazines are read and enjoyed by thousands of people. They all have a delightfully personal approach and *Leisure Gardening* is written in the same way. One feels that Mr. D'Ewes is talking to the readers, giving them the benefit of his long experience as a home gardener. Actually he gives very much more. Apart from explaining his own ideas and methods he condenses in readily understandable form the results of scientific research undertaken by others.

"Humus is King" is the chapter which appealed to me most. Instead of telling us just how he makes his own compost—and that if we follow his system faithfully we could also make good compost—he gives us the scientific background to the process of decomposition of organic matter.

The book is illustrated by exceptionally fine black and white plates from the author's own photographs. The dust cover is a photograph also by Mr. D'Ewes of the courtyard of Groot Constantia. It can be read in bits and pieces for pure enjoyment and can also prove a sound and useful guide for the backyard gardener.

H. B. Rycroft

E. G. H. Oliver and H. A. Baker: *An Introduction to the Genus Erica in Southern Africa*, with paintings by Irma von Belon, Fay Anderson and others, to be published by Purnell & Sons (S.A.) (Pty.) Ltd., Cape Town.

This book which is to be published in 1967 is the first comprehensive, illustrated account of the Ericas, or Heaths, since the publications of Bauer in 1796 and Andrews in 1800–1810. The genus Erica has approximately 620 species of which more than 95 per cent occur naturally in Southern Africa.

One hundred and sixty-two species are illustrated on 102 full-page colour plates. All the paintings are of flowering sprigs and of dissections of the individual flowers. The drawings therefore can be regarded as completely botanical and should be a valuable guide to the identification of the different varieties.

Although most of the Ericas are concentrated in the south-western Cape, the authors have striven to select species representative of the entire area of Southern Africa. In the text there is an introduction to the genus with comments on early collectors, distribution and ecology. There is also a glossary of the botanical terms used. I am quite convinced that this will be a most welcome and significant addition to our literature on the South African flora, especially as it deals with a genus so characteristic of our vegetation.

The price has not yet been determined but enquiries may be made to the publishers, Messrs. Purnell & Sons (S.A.) (Pty.) Ltd., P.O. Box 4501, Cape Town.

H. B. Rycroft

M. R. Levyns: *Guide to the Flora of the Cape Peninsula.* Second Revised Edition, Juta & Company. R5.75.

Guide to the Flora of the Cape Peninsula, first published in 1929, has been out of print and virtually unobtainable, even second hand, for many years. The need for a re-issue of this useful work has long been felt, and this second edition which includes recent name changes, amended descriptions and keys, revised by the author, Dr. M. R. Levyns, the well known authority on the Western Cape flora, therefore makes a welcome re-appearance.

As its title indicates, it claims only to be a guide to the Flora of the Cape Peninsula, and was designed to meet the needs of the student and the many laymen anxious to learn to do it yourself, to gain a knowledge of the local flora, including the common wayside flowers and weeds, as well as the more spectacular ones most frequently illustrated. In this it serves its purpose admirably.

It provides simple keys to the main divisions of the Flowering Plants and Ferns, the families and the genera of this rich floral region, with helpful notes on how to use them, and a glossary of botanical terms. It includes short descriptions of no less than 110 families and 703 genera, indicating the number of species in each genus, as well as the flowering period.

The text is supplemented by small line drawings, by several artists, and as this visual aid is a very important aspect of the work for the beginner, it is regrettable that, probably due to the rise in production costs, fewer rather than more illustrations have been included in the new edition.

Its convenient size makes it a handy field book, and its clear type and format facilitate reference to it, while the attractive dust cover in colour follows the modern trend and will serve to bring this invaluable guide to the notice of all who would wish to use and possess it.

W. F. BARKER

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THE BOTANICAL SOCIETY OF SOUTH AFRICA

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER 1965

THE Council of the Botanical Society of South Africa presents with pleasure the fifty-second annual report for the year ending 31 December 1965.

MEMBERSHIP

A welcome was given to 681 new members during this year. Unfortunately, this number was offset by deaths and resignations totalling 127, while a further 396 had to be struck off the roll, being two or more years in arrears with their subscriptions. It should be noted that regular reminders were sent to all members who were overdue with their subscriptions, prior to their names being removed from the roll. The net gain in membership is 158, making a total of 5,398 members as at the end of 1965. Full details are listed hereunder:

New members enrolled during 1965—

Patron	1
Life	7
Corporate	8
Family	111
Ordinary	530
Associate	24
	681

Deaths	33
Resignations	94*
	127
Removed—subscriptions unpaid for 2 years	396†

Total membership: 5,398. Net gain: 158.

FINANCIAL

Subscriptions received R12,681.33 (1964 R11,470.48), which includes: Patron R200.00, Life R662.61, Corporate R578.18, Family R2,663.98, Ordinary R7,759.86, Associate R716.70, other sources of income R993.29. Expenditure was R5,685.73 (which includes the printing of our 1965 Journal R1,839.80), plus depreciation of machines and amount transferred to General Reserve R41.64, leaving a surplus of R6,984.64, which constitutes the Grant to the National Botanic Gardens for 1965. It is regretted that owing to additional expenditure (listed hereunder) we have not reached the figure of the previous year, despite the increase in subscriptions. This is accounted for as follows: 1965 Journal R1,839.80 as against R987.27 in 1964. Increased salary scale from R1,405.64 to R1,703.11. Expenditure Transvaal Branch R450.20 (1964 R69.60). Donations received R462.81. It is intended, however, to have a special drive to recruit more new members by asking our present members to endeavour to enrol their friends.

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*(Of which 20 joined in 1963).

†(Of which 214 joined in 1963).

MEETINGS OF THE SOCIETY

A most encouraging number of members attended the various functions arranged for 1965. In addition to the calendar of meetings arranged for the year, two Botanical Society Discussion Group excursions were held during the year. The first, held in April, was conducted by Miss Judith Graves of the University of Cape Town and the subject was Seaweeds. Members met at Melkboschstrand in ideal weather and it was most delightful to receive instruction on algae while standing ankle-deep in water! A follow-up lecture was held on the following Monday evening at the Botany Department, University of Cape Town, where Miss Graves had painstakingly arranged specimens for members to view under the microscope.

Our second excursion on Ferns, ably led by Dr. E. A. Schelpe, Curator of the Bolus Herbarium, was held at Skeleton Gorge, Kirstenbosch. A few of those present were unable to negotiate the steep climb beyond the Contour Path, but were able to view the specimens seen in their natural habitat by the rest of the group, at the lecture held that same afternoon in the Botany Department, University of Cape Town.

We are indeed grateful both to Miss Graves and to Dr. Schelpe for their willingness to give their valuable time in the interests of our Society.

9 *January* — Special Gathering for Visiting Members. Despite the unfavourable weather conditions, a fair number attended the gathering in the Lecture Hall which was addressed by the President of the Society, Mr. D. R. D'Ewes.

26 *January* — Mr. G. J. E. Matthaei, Chief Landscape Officer of the Cape Provincial Administration, gave a most interesting talk entitled "Along the Road", illustrated with colour slides, depicting wild flowers seen during his travels while on duty and the efforts being made by the Department of Nature Conservation to preserve our flora and beautify our roads.

9 *February* — "Parks and Recreation Structures of the National Parks U.S.A." was the subject of a talk given by Captain M. F. Stern, with illustrations on an epidiascope.

23 *February* — Mr. K. Howes-Howell, who is expert in photographing our wild flowers, gave a demonstration on Practical Flower Photography, followed by a screening of interesting colour films.

16 *March* — Annual General Meeting followed by an illustrated talk "Talking Proteas in the U.S.A.", given by Mr. W. J. Middelmann on his visit to the U.S.A. which was most interesting and well received.

6 *April* — Dr. E. A. Schelpe gave an appreciative audience a talk on "Drakensberg Plants", illustrated with beautiful colour slides.

8 *May* — Mr. W. J. Tijmens was our gracious host when we visited the Botanic Garden, University of Stellenbosch. A large number of members attended this event and visitors were divided into three groups which were then conducted on a tour of the Garden by Mr. Tijmens, Professor P. Jordaan and Mr. H. Herre. After a picnic lunch, a visit was made to the Herbarium where Mr. E. G. H. Oliver, Mr. H. C. Taylor and Miss M. Thompson were in attendance and kindly answered any questions made by the visitors. This was followed by a visit to the beautiful nature reserve owned by Mr. P. Barlow at

Simonsberg. Here Mr. Tijmens was ably assisted by Miss S. Heney who was most helpful in identifying the various plants.

8 *June* — Anticipating that the showing of the Kirstenbosch Golden Jubilee Films would be a popular event, it was decided to hold this at the Science Lecture Theatre, University of Cape Town. The response was most gratifying as at least 300 people were present.

27 *July* — Professor H. B. Rycroft and Mr. J. Marais, the Director and Curator of the National Botanic Gardens, gave a talk on the efforts made at Kirstenbosch to combat the growth of alien vegetation. This was followed by "Shadows of Death" a series of slides taken by Mr. S. W. Chater, depicting alien vegetation on the Silvermine Plateau.

10 *August* — The Assistant Curator of the National Botanic Gardens, Mr. A. J. M. Middlemost, assisted by Mrs. Joan Pare, gave instructions to members on preparing their exhibits for our annual Wild Flower Show.

18 *and* 19 *September* — Wild Flower Show, details of which are given in the Wild Flowers Protection Section Report.

2 *October* — Annual Visit to the Karoo Garden, Worcester. The President of the Society, Mr. D. R. D'Ewes, addressed the gathering and asked all present to pause in memory of the late Chairman of the Botanical Society, Mr. Milton Clough, to whom he paid tribute. The visit was unfortunately marred by the overcast weather which prevented visitors from seeing the gardens at their best. Tea was served by Mrs. F. Stayner and lady helpers.

9 *October* — Annual Gathering. Owing to inclement weather, this meeting was held in the Lecture Hall. Professor H. B. Rycroft, Director of the National Botanic Gardens, addressed a large number of members and spoke of the progress made at Kirstenbosch and of the Botanical Society during the past year. A presentation was made to his secretary, Miss B. Martin who was retiring at the end of October. An announcement was made of the winner of the J. W. Mathews Trophy Competition.

4 *December* — Visit to Harold Porter Reserve, Betty's Bay. This was an ideal day and members viewed the Reserve under the guidance of the Curator, Mr. W. Topper. Owing to abnormal weather conditions in preceding months, however, no Disas were yet in bloom.

THE HARRY BOLUS MEDAL

At the Council Meeting held on 23 June, it was suggested that an award be given periodically to amateur (non-professional) botanists who contributed the most important observations and/or data to Botany over a period of say one to three years. This was agreed to and it was considered an appropriate year to make such an award in view of it being the Centenary of the year when Harry Bolus started his collection of herbarium specimens. The sub-committee formed to deal with this matter, nominated Captain T. M. Salter as the first candidate to receive the Harry Bolus Medal. When Professor Rycroft and Miss Harvey called to discuss arrangements for the presentation of this medal with Captain Salter, he expressed the wish that this be done privately.

JOURNAL OF THE BOTANICAL SOCIETY

Part 51, edited by Professor H. B. Rycroft, was published during June and was distributed to all members, libraries etc.

OFFICE BEARERS 1965

The following were elected at the Annual General Meeting of the Society held on 16 March.

President: Mr. Dudley R. D'Ewes.

Vice-Presidents: Professor R. H. Compton, Professor H. B. Rycroft, Mr. C. J. Sibbett.

COUNCIL

Mr. M. G. Botha,
Mr. M. Clough,
Dr. W. P. U. Jackson,
Dr. G. J. Lewis,
Mr. W. J. Middelmann,
Mr. F. C. Sawkins,
Miss E. L. Stephens,
Dr. G. J. Broekhuysen,
Mr. L. J. Hill,
Miss M. E. Johns,
Prof. W. J. Lutjeharms,
Dr. E. A. Schelpe,
Capt. M. F. Stern,
Mr. H. A. van Hoogstraten.

Mr. Milton Clough was re-elected Chairman at the first meeting of Council.

OBITUARY

The Council records with sincere regret, the death of the Chairman, Mr. Milton Clough on 26 September 1965, after a short illness. Mr. Clough, who was Chairman of the Cape Local Board of the Standard Bank of S.A. Ltd., member of their S.A. Board and formerly General Manager in South Africa, had been Chairman of the Botanical Society of S.A. since 1958. The Botanical Society has suffered a great loss through the death of Mr. Clough and our heartfelt sympathy is extended to his widow, Mrs. I. Clough and to their daughter and her family.

ELECTION OF NEW CHAIRMAN

At a Council meeting held on 8 December 1965, Mr. M. G. Botha was unanimously elected as Chairman and the Society's full representative on the Board of Trustees of the National Botanic Gardens of S.A.

THANKS

Our sincere appreciation is recorded to all who have helped to further the interests of the Society during the year, with special thanks to Mrs. Anne MacKenzie for sacrificing so much of her time in assisting us in the office. Our thanks are also extended to Mrs. P. Campbell, Mr. F. C. Sawkins, to the staff of the National Botanic Gardens and to Mrs. A. J. M. Middlemost for her valued help in serving refreshments at our meetings. The Cape Provincial Administration is gratefully thanked for allowing the use of its rooms for meetings of Council. The daily Press and S.A. Broadcasting Corporation are also thanked for their co-operation.

M. G. Botha, *Chairman.*

(Miss) J. Harvey, *Secretary/Treasurer.*

Wild Flowers Protection Section Committee

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER 1965

INCOME FOR THE YEAR

Balance as at 1/1/65: R4,796.28. Subscriptions received R1,105.46, Grant from Provincial Administration R300.00, Profit on Wild Flower Show R26.82, Interest received on Investments R144.47, Amount received from Alien Vegetation Committee R364.45, Total amount in investments R4,062.03, Cash on Hand R20.94, Amount due from General Account R1,483.99. Less Expenditure R611.25, Less 5 per cent subscriptions credited to General Administration Expenses R55.27, Less depreciation of Equipment at 10 per cent R50.40. Total value of equipment R1,128.40, less Aggregate Depreciation R674.80.

WILD FLOWER SHOW — 18 and 19 September

The weather was ideal for our Wild Flower Show, which was officially opened by Major P. van der Byl, M.P. Our sincere appreciation is recorded to all members who entered exhibits, many of which were of a high standard. It had been suggested that the prize-winning exhibits be flown to Kew Gardens. On consideration, however, it was decided that this would not be practical as the flowers would no longer be in a fresh condition on arrival at their destination. Finally, it was suggested that these exhibits be displayed in the windows of leading stores in Cape Town and our gratitude is recorded to the following firms who kindly co-operated with us in this connection: Garlicks, Stuttafords, Union-Castle Company Limited and the Publicity Association.

ADVISORY MEETING FOR NATURE CONSERVATION

Professor H. B. Rycroft again represented the Society at the Advisory Committee Meeting held on 25 and 26 August. The problem of combating alien vegetation was recommended as an item for the Agenda.

C.A.V. COMMITTEE

The future of the C.A.V. Committee was discussed at a meeting held on 22 January 1965 and was outlined as follows: "The Chairman broached the matter of the past and future activities of this committee. He felt that there was no doubt that its efforts to date, particularly the publication of the *Green Cancers* and *National Parks*, had done a great deal to awaken the undoubted public and departmental interest which now existed in the question of control of alien vegetation. The question now arose as to whether this committee had not, in fact, performed its function and should disband."

It was suggested that the functions of the Committee should logically be taken over by the Wild Flowers Protection Committee.

It was further suggested that the Committee should disband and hand over its assets and functions to the Parent Body (i.e. the Botanical Society). After further discussion, it became clear that the total disbandment of the C.A.V. Committee would entail the loss of a well-known pressure group whose influence might still, in future, have its effect on various authorities.

It was finally proposed that in order to avoid the disbandment of the C.A.V. those members of the Committee who were not the official appointees of the Botanical Society, should resign. This would then have the effect of leaving the Committee in being in the hands of the official appointees only, who would report to the Botanical Society and deal with the matter in accordance with the Botanical Society's instructions.

The following resolution was then made:

> "That in future the functions of this Committee could adequately be performed by the Wild Flowers Protection Section and the Committee therefore recommended to the Botanical Society that these functions be taken over by that Body. It is the urgent hope of those who have worked for it that the name should not be lost and it is their belief that much remains to be done under the aegis of the Control of Alien Vegetation Committee (C.A.V.)".

ALIEN VEGETATION AT THE CAPE OF GOOD HOPE NATURE RESERVE

A member of the Committee reported that aliens were increasing at the Cape of Good Hope Nature Reserve and a letter was subsequently sent to the Divisional Council in this connection. Their reply was that such labour as could be made available was at work in the Reserve throughout the year cutting wattle and rooikrantz. It was further mentioned that cutting and even digging out the roots of these plants were merely palliatives; that a tremendous research programme was needed to find some organism, virus or chemical, which would attack alien plants and not others. The assurance was given, however, that our letter would be submitted to the Advisory Board of Nature Conservation.

PICKING OF PROTEA CYNAROIDES IN DU TOIT'S KLOOF

A report was made to this Committee about the apparent early-morning raid on Protea cynaroides at Du Toit's Kloof and a letter to this effect was sent to the Department of Nature Conservation.

NEW PUBLICATION OF GREEN CANCERS

A new publication of the booklet *Green Cancers* is under review and it has been recommended that three species be added to this publication:

1. *Pinus halepensis*,
2. *Pinus pinea* (stone pine),
3. *Eucalyptus cornuta* (spider gum).

PROTECTION OF WILD FLOWERS IN NAMAQUALAND

In response to a request made by the Chairman during an interview with the Minister of Mines, a list was supplied by the Secretary for Mines of the firms who had been granted mining concessions in Namaqualand. Subsequently, Mr. A. J. M. Middlemost of Kirstenbosch and Mr. R. C. Littlewood of the Karoo Gardens, Worcester, made a visit to this area.

OFFICE BEARERS

The following members were elected to this Committee:

Mr. J. Bezuidenhout,
Mr. L. J. Hill,
Miss M. E. Johns,
Mr. W. J. Middelmann,
Professor H. B. Rycroft,
Mr. C. Sampson,
Mr. L. Silberbauer,
Mr. D. Heesom,
Mrs. A. MacKenzie,
Mr. E. G. H. Oliver,
Mr. F. C. Sawkins,
Mrs. C. Sampson,
Mr. D. Woods.

Professor Rycroft was re-elected Chairman at the first meeting of this Committee. Five meetings of the Committee were held at various times during 1965.

PUBLICATION OF NEW GUIDE TO NATIONAL BOTANIC GARDENS

In response to repeated requests received at the Society's Office, for an illustrated brochure of the Gardens, a sub-committee was appointed by this Section to deal with the matter. It has been decided that this publication should include, inter alia, coloured illustrations of various species that are to be seen at Kirstenbosch and regional Gardens. It is felt that such a brochure would serve a dual purpose in providing favourable publicity of the beauty of the Gardens and also in helping the general public to learn the names of our wild flowers.

OBITUARY

It is with sincere regret that we record the death of Mr. L. Silberbauer, a member of this Committee who was also an active member of the former C.A.V. Committee since its formation.

THANKS

Our thanks are again extended to the Cape Provincial Administration, to the Daily Press, S.A.B.C. and all who have furthered the interests of this Committee during the year.

H. B. Rycroft, *Chairman.*

(Miss) J. Harvey, *Secretary.*

THE BOTANICAL SOCIETY OF SOUTH AFRICA

TRANSVAAL BRANCH

ANNUAL GENERAL MEETING HELD AT THE NEW GEOLOGY THEATRE, UNIVERSITY OF THE WITWATERSRAND ON 8 FEBRUARY, 1966

CHAIRMAN'S REPORT

Ladies and Gentlemen,

It gives me great pleasure to read the Chairman's Report at this First Annual General Meeting of the Transvaal Branch of the Botanical Society of South Africa.

Without being complacent about our Society, I feel that I can safely say that this has not only been an historic year, because it is the first year of our formation, and we have had to make decisions that will influence our future policy, but it has also been a year of achievement and of great enjoyment and cameraderie, such as we have never before experienced in our Society, away from the Cape.

When the first general meeting of the Society was held on 7 December, 1964 in the John Moffat Building at the University of the Witwatersrand, the following committee members were chosen:

Chairman:	Mrs. Sima Eliovson.
Deputy-Chairman:	Dr. Guy Berry.
Secretary/Treasurer:	Mrs. L. van der Merwe.
Committee Members:	Mrs. L. E. Davidson, Mr. S. S. du Plessis, Dr. Carl Jeppe, Dr. A. O. D. Mogg, Mrs. B. Peschel.

Mr. V. Bishendon was co-opted on to the Committee during October, 1965. Unfortunately, Mr. S. S. du Plessis could not attend the committee meetings owing to illness, and the fact that it was difficult to come over regularly from Pretoria to Johannesburg.

The committee arranged interesting meetings throughout the year. The first was given on Tuesday, 23 February 1965, by Professor H. B. Rycroft on his recent travels in Russia and Europe, illustrated by slides. The second took place on 26 March 1965, when Dr. B. de Winter, Assistant Chief at the Botanical Research Institute, gave an illustrated talk on the *Plants of the Namib Desert.*

A special showing of the two B.P. Films *Jubilee Year at Kirstenbosch* and *Heritage of Wild Flowers*, was given to the Society in the B.P. Auditorium, on 27 April 1965. Prof. H. B. Rycroft was able to be present on this occasion.

The third lecture took place on 10 August 1965, and the illustrated talk was given by Mr. J. Geddes-Page, Director of the Natal Parks, Game and Fish Preservation Board, on *The Wild Flowers of Natal.*

On 13 September 1965, we had a visit from Mr. E. G. H. Oliver of the Government Herbarium in Stellenbosch, who gave us a profusely illustrated colour slide lecture on *Heaths in the South-Western Cape.*

Our fifth and final lecture of the year was given by Dr. R. A. Dyer of the Botanical Research Institute at Pretoria, on the fascinating subject of *Cycads.*

Without eulogising any one of our excellent lecturers, it can be reported that all these meetings were highly successful and instructive, while the large audiences were enthusiastic and extremely interested. During the year, visitors were welcomed from Vereeniging, Florida, Pretoria and from as far afield as Zululand.

As there is no special hall belonging to this Society, the meetings were held at the Dorothy Susskind Auditorium at the University of the Witwatersrand and at the Shell Auditorium in Shell House. On one occasion, the Botanical Society was given a room at the Library by the Secretary of the Transvaal Horticultural Society, who had reserved it for a meeting of the Succulent Society. A combined meeting of the two Societies was held on that night.

One of the wishes of the Transvaal Branch of the Botanical Society of South Africa is to welcome to their meetings any people or Societies who are interested in wild flowers and plants. Combined meetings with other Societies are welcomed, as it is felt that larger audiences gratify the lecturer and benefit the maximum number of people.

The committee suggested in one of our circulars that members from country districts arrange to come to Johannesburg in groups to attend lectures. We hope that enthusiastic leaders will inform our Secretary of their willingness to contact others in their area, so that she can supply them with a list of names.

Apart from the programme of events, a great deal of activity has gone on behind the scenes at the committee meetings, laying the foundation for future activities of the society.

A diverse calendar of activities has been planned for 1966, including outings as well as lectures. A list of protected plants of the Transvaal, supplied by Mr. du Plessis, was sent out to members in the Newsletter. Duplicate slides are being collected for future lectures and we hope to send these to the country districts later.

During a visit to Cape Town in September, the Chairman was able to attend a special meeting of the Council of the Botanical Society of South Africa, when the business and activities of the Transvaal Branch were discussed at length.

One item established was that the Transvaal Branch would have at least one page in the Journal for the Chairman's Report and for news items. Financial matters were discussed and the Transvaal Branch received the utmost courtesy, assistance and encouragement from the Council.

Perhaps the most important subject to be discussed by the Committee of the Transvaal Branch during the year was the possible establishment of a Botanic Garden for Johannesburg, preferably with the assistance of Kirstenbosch.

The Committee has pledged itself to devote all its energies, in the form of active support and advice, to the formation of such an organisation. It would be happy to sit on any committee of a Botanic Garden and assist in many ways.

The first approach was made by the Chairman to the Mayor of Johannesburg, Mr. Aleck Jaffee, on 19 July 1965. At the Mayor's request, a detailed memorandum for the Municipality was drawn up by the Chairman and Professor H. B. Rycroft, who laid down the requirements that would be needed for a Botanic Garden and for the part that would be played by Kirstenbosch.

In January 1965, a letter from the Municipality was received by the Chairman from the Acting General Manager of Parks, Dr. van der Merwe, and a very interesting preliminary discussion took place on 10 January 1965 between your Chairman, Dr. van der Merwe, and Mr. Mumford of the Parks Department. It is too soon to make any definite report of developments at this stage, but the idea of a large Botanic Garden, with all amenities in one place, was favourably received. It is suggested that this be an autonomous body and that the gardens include an indigenous section, an exotic section and all the scientific requirements necessary to such an institution, which will benefit not only Johannesburg, but the country in general. The actual site is still under surveillance as it is difficult to find a suitable area of at least 100 acres in extent in this built-up city.

We end this report, therefore, on a note of optimism and anticipation of good things to come in the Botanical sphere. We hope that we are attaining our object of bringing the Transvaal members of the Society closer into touch with the activities of the Botanical Society of South Africa.

On the debit side it must be added that we made a mistake about the date of our Annual General Meeting which, according to the constitution, should have been held in November. Whether we have set a precedent for holding it again next February or whether we shall make history by having a second Annual General Meeting this year in November, will be a matter for the incoming committee to ponder.

I thank you, ladies and gentlemen, for your attendance and your attention.

SIMA ELIOVSON, *Chairman.*
Transvaal Branch of the
Botanical Society of S.A.

THE BOTANICAL SOCIETY

BALANCE SHEET AS AT

		R c	R c
Life Membership Fund			13,043.05
Balance 1/1/1965		12,180.44	
Add: Amount received during 1965		862.61	
Reserve Fund			800.00
Mrs. W. Hall Memorial Fund			191.75
Subscriptions Paid in Advance			14.00
National Botanical Gardens			6,984.64
Wild Flowers Protection Section			1,483.99
			22,517.43
Wild Flower Protection Section			6,020.56
Balance 1/1/1965		4,796.28	
Subscriptions—Ordinary—received during 1965		1,105.46	
Grant from Provincial Administration		300.00	
Profit on Wild Flower Show		26.82	
Interest received during 1965		144.47	
Control of Alien Vegetation		364.45	
		6,737.48	
Less: 5% of 1965 Subscriptions credited to General Administration Expenses	55.27		
Salaries	307.40		
Stationery, Postages, Travelling expenses, Insurances etc.	303.85		
Depreciation of Equipment at 10% p.a.	50.40		
		716.92	
			R28,537.99

Referred to in our Report of even date.
CAPE TOWN
1 *March* 1966

OF SOUTH AFRICA

31 DECEMBER 1965

	R c	R c	R c
Investments:			
Cape of Good Hope Savings Bank			
Savings Account No. 52773 at 4% p.a.			2,630.28
Post Office Savings Bank			
Savings Account No. 5803 at 3½% p.a.			241.67
United Building Society			
Savings Account No. 536 at 3% p.a.			5,074.07
S.A. Permanent Building Society			
Fixed Deposit No. 77868 at 5½% p.a.			1,485.25
Trust Bank of Africa Limited			5,461.77
Savings Account No. 24112 at 4% p.a.		2,379.27	
Fixed Deposit No. 6583 with accrued interest at 5½% p.a.		2,055.00	
Fixed Deposit No. 13769 with accrued interest at 5½% p.a.		1,027.50	
Standard Bank of S.A. Ltd.			3,560.11
Fixed Deposit No. 67/67 at 5½% p.a.		800.00	
Fixed Deposit No. 67/66 at 5½% p.a.		2,760.11	
Cash			3,782.53
Current Account with Standard Bank of S.A. Limited		3,863.18	
On Hand		19.35	
		3,882.53	
Less: Liabilities		100.00	
Addressograph			222.75
Balance 1/1/1965		247.50	
Less: Depreciation written off		24.75	
Adding Machine			59.00
Balance 1/1/1965		65.60	
Less: Depreciation written off		6.60	
			R22,517.43
Wild Flower Protection Section			6,020.56
Investments			
Trust Bank of Africa Ltd.			
Savings Account No. 34077 at 4% p.a.		2,583.79	
Fixed Deposit No. 11444 with accrued interest at 6% p.a.		515.00	
Fixed Deposit No. 9823 with accrued interest at 5½% p.a.		963.24	
Cash			
On Hand		20.94	
Amount due from General Account		1,483.99	
Equipment		453.60	
Film Projector, Screen etc.—Cost	802.40		
Duplicator—Cost	326.00		
	1,128.40		
Less: Aggregate Depreciation	674.80		
			R28,537.99

R. M. JOUBERT & CO.
Chartered Accountants (S.A.) *Auditors*

INCOME AND EXPENDITURE ACCOUNT FOR THE TWELVE MONTHS ENDED 31 DECEMBER 1965

		R c		R c	R c
General Administration Expenses		780.93	*Subscriptions:*		11,718.72
Audit Fees 1965		100.00	Family Members	2,663.98	
Honorarium to Secretary-Treasurer		1,703.11	Ordinary Members	7,759.86	
Bank Charges		130.51	Associate Members	716.70	
Stationery and Printing		766.38	Corporate Members	578.18	
Expenses Transvaal Branch		450.20			
Contribution to Pension Fund		108.00	Donations		462.81
Journal No. 51		1,646.60	Interest on Investments		504.48
Cost to date including printing, dispatching etc.	1,839.80		Amount recovered re Journal No. 50		26.00
Less: Amount received from Advertisements	193.20				
Depreciation—Addressograph		24.75			
Depreciation—Adding Machine		6.60			
Transfer to General Reserve		10.29			
Surplus for the year		6,984.64			
		R12,712.01			R12,712.01

WILD FLOWERS OF THE CAPE OF GOOD HOPE

BOOK FUND TRUST ACCOUNT

	R c		R c
Stock of Books on Hand 1/1/1965	5,375.31	Sundry Income	597.00
Audit Fees	21.00	Interest on Investments	12.30
Bank Charges	7.00	Stock of Books on Hand 31/12/1965	4,899.99
Surplus	105.98		
	R5,509.29		R5,509.29

BALANCE SHEET AS AT 31 DECEMBER 1965

	R c	R c		R c	R c
Accumulaed Funds:		5,104.99	**Stock of BOOKS ON HAND**—as per Treasurer's Valuation		4,899.99
Balance 1/1/1965	5,596.01		**Post Office Savings Bank:**		
Add: Surplus as above	105.98		Savings Account No. S5660 at $3\frac{1}{2}\%$ p.a.		163.37
	5,701.99		**Cash:**		41.63
Less: Transfer to National Botanic Gardens	597.00		Current Account at Standard Bank of S.A. Limited	59.33	
			On Hand	3.30	
				62.63	
			Less: Liabilities	21.00	
		R5,104.99			R5,104.99

AUDITOR'S REPORT

We have to report that we have examined the above Balance Sheet as at 31st December, 1965, with the books and vouchers of the Society, and have obtained all the information and explanations we have required. We are satisfied that the securities are in existence and that the Society has kept proper books and accounts. We are of the opinion that such balance sheet is properly drawn up so as to exhibit a true and fair view of the state of the Society's affairs at the date thereof, according to the best of our knowledge and the explanations given to us, and as shown by the books of the Society.

CAPE TOWN
1 *March* 1966

R. M. JOUBERT & CO.
Chartered Accounts (S.A.) *Auditors*

PUBLICATIONS ON SALE AT KIRSTENBOSCH

The following may be obtained by application, enclosing payment, to the Secretary, The Botanical Society of South Africa, Kirstenbosch, Newlands, C.P., South Africa. Prices include postage.

'The Species of Oxalis occurring in the Cape Peninsula and how to distinguish them'; T. M. Salter	10c
'General Hints on Raising Indigenous Plants from Seed'; H. F. Werner	10c
'South African Proteaceae and their Cultivation'; H. F. Werner	10c
'Progress in the Study of the Silver Tree Disease'; D. Olivier	10c
'Pelargonium—A South African Contribution to World Gardens'; F. M. Leighton	10c
'The Propagation of Succulents from Seeds and Cuttings'; H. Hall	10c
'Growing Proteaceae in the Summer-rainfall Area'; M. M. Vogts	10c
'Seaweeds'; W. E. Isaac	10c
'Some South African Biennials and near-Biennials and their Cultivation'; H. F. Werner	10c
'Some South African Herbaceous Perennials and their Cultivation'; H. F. Werner	10c
'Plant Names and their Origin'; M. R. Levyns	10c
'Propagation and Cultivation of Proteas and Heaths'; H. F. Werner	10c
'Suid-Afrikaanse Proteaceae en hul Teelt'; H. F. Werner	10c
'Plants of Land and Sea'; W. E. Isaac	10c
'Growing Cape Bulbs in the Summer Rainfall Area'; Sima Eliovson	10c
'Algemene Wenke oor die Kweek van Inheemse Plante van Saad'; H. F. Werner	10c
'Notes on some rare Stapelias from Namaqualand'; H. Hall	10c
'Birds of the National Botanic Gardens of South Africa'; Dr. G. J. Broekhuysen	10c
'Gasteria—A Problem Genus of South African Succulent Plants'; Dr. E. A. Schelpe	10c
'Some Cultural Notes on *Disa uniflora*'; G. M. L. Feinauer	10c
'Plant Collecting in the Kaokoveld'; H. Hall	10c
'The Cultivation of the Proteaceae'; Marie M. Vogts	10c
'Growing S.A. Proteaceae in New Zealand'; W. R. Stevens	10c
'Notes on Streptocarpus and its Cultivation'; Prof. H. B. Rycroft and G. M. L. Feinauer	10c
'South African Epiphytic Orchids I'; E. A. C. L. E. Schelpe	10c
'South African Epiphytic Orchids II'; E. A. C. L. E. Schelpe	10c
'Namaqualand, A Botanical Wonderland'; H. Hall	10c
'Saving our Flora'; Prof. H. B. Rycroft	10c
'The National Botanic Gardens of S.A.'; Prof. R. H. Compton	10c
'Economic Plants at Kirstenbosch'; F. W. Thorns	10c
'Three Hundred Years of Trees—Past and Future'; Prof. R. H. Compton	10c
'The Wilds'; Gwen Edwards	10c
'The Behaviour of some S.A. Proteaceae in New Zealand'; W. R. Stevens	10c
'The Botany of Basutoland'; A. Jacot Guillarmod	10c
'The Botany of Swaziland'; Prof. R. H. Compton	10c
'The Cultivation of Buchu'; H. F. Werner	10c

'The Green Cancers in South Africa'—Alien Vegetation	10c
,Die Kankerbosse van Suid-Afrika'—Uitheemse Plantegroei	10c

The following may be obtained on application to The Director, National Botanic Gardens of South Africa, Kirstenbosch, Newlands, C.P.:

JOURNAL OF SOUTH AFRICAN BOTANY, from Volume XVI onwards, each volume in four quarterly parts. R5.00 per volume, R1.50 per part. (To members of the Botanical Society of South Africa R4.00 and R1.00.)

Reprints of articles published in the *Journal of S.A. Botany* (each) 10c

SUPPLEMENTARY VOLUMES TO THE JOURNAL

I—Genus Oxalis in South Africa; T. M. Salter	Out of print
II—Genus Muraltia; M. R. Levyns	R3.50
III—Genus Babiana; G. J. Lewis	R3.00
IV—Genus Agapanthus L'Heritier; F. M. Isaac	R3.00
V—South African Species of Eulophia; A. V. Hall	R3.00
VI—An Annutated Check List of the Flora of Swaziland; R. H. Compton	R3.00

It would be much appreciated if members who have spare copies of the Annual Report of the National Botanic Gardens of South Africa for 1954 *and* 1956 (*English*) and/or 1955 *and* 1956 (*Afrikaans*) would forward them to the office at Kirstenbosch. Indien lede Jaarverslae van die Nasionale Botaniese Tuine van Suid-Afrika vir 1954 *en* 1956 (*Engels*) en/of 1955 *en* 1956 (*Afrikaans*) kan afstaan, ontvang ons dit graag.

SPECIAL THANKS

We record our sincere gratitude to Messrs. Mobil Oil Southern Africa for their kindness in sponsoring our Society's 1966 gratis parking disks.

AIR-MAIL APPLICATIONS FOR SEED

Overseas members wishing to have their seed requests returned by Air-Mail are kindly asked to include an extra R1.00 (10s. British Sterling) with their subscriptions, and please to indicate this on the seed application form that seeds should be sent by airmail. For the information of members residing in U.S.A. the equivalent of R3 in S.A. Currency is approximately $4.50 U.S. Dollars.

THE BOTANICAL SOCIETY OF SOUTH AFRICA

OBJECTS:

1. The promotion of the interests of the National Botanic Gardens of South Africa established under the Trustees of the National Botanic Gardens of South Africa.
2. The preservation of the native flora of South Africa. The Society therefore endeavours:
   (*a*) To encourage the people of South Africa and other countries in the progress and development of the National Botanic Gardens of South Africa at Kirstenbosch, and any other Garden that may be established by the Trustees of the said National Botanic Gardens of South Africa.
   (*b*) To augment the Government and other grants towards developing, improving and maintaining the National Botanic Gardens of South Africa at Kirstenbosch and any Garden referred to in the preceding subsection.
   (*c*) To organize shows at which may be displayed the results of botanical experiments of cultural skill in improving the different varieties of South African flora.
   (*d*) To enlighten and instruct on botanical subjects by means of meetings, lectures and conferences and by the distribution of literature.
   (*e*) To promote the preservation of the native flora of South Africa, to encourage public interest in it, and to co-operate with the Public Authorities and others in the attainment of this object.

FOUNDED 10 JUNE 1913

President: Mr. DUDLEY R. D'EWES
Vice-Presidents: Professor R. H. COMPTON, Professor H. B. RYCROFT, Mr. C. J. SIBBETT
Chairman of Council: Mr. M. G. BOTHA
Secretary and Treasurer: Miss J. HARVEY

Council:

Mr. M. G. Botha
Mr. J. J. Fagan
Mr. L. J. Hill
Dr. W. P. U. Jackson
Miss M. E. Johns
Prof. P. Jordaan
Dr. G. J. Lewis
Prof. W. J. Lutjeharms
Mr. G. J. E. Matthaei
Mr. W. J. Middelmann
Mr. J. Minnitt
Mrs. E. Powrie
Mr. F. C. Sawkins
Dr. E. A. Schelpe
Mrs. C. E. Searle

Terms of Membership:

Benefactors, subscribing not less than R1,000 over a period of two years or less.

Patrons, subscribing not less than R200 in one payment.

Life Members, subscribing not less than R50 in one payment. (Not open to municipalities, societies, etc.).

(Life Membership is open to Family and Ordinary Members of twenty years' standing for one payment of R20.)

Corporate Members, subscribing not less than R10 per annum.

Family Members, subscribing not less than R5 per annum.

Ordinary Members, subscribing not less than R3 per annum.

Associate Members, subscribing not less than R1 per annum and being resident in the Republic of South Africa, S.W.A., Rhodesia, British Protectorates and African Territories only.

Associate Members enjoy all the privileges of Membership, except that they do not vote at any of the Society's Meetings and are not entitled to share in the free distribution of seed.

Honorary Members may be elected at a Meeting of the Society on the nomination of the Council.

All members except associate members have the privilege of sharing in the free distribution of surplus seeds from Kirstenbosch and Worcester, on application to the Director of the Gardens. The Journal of the Botanical Society, published annually, is sent free to every Member. The Journal of South African Botany can be purchased by Members at reduced rates.

Members who wish to support the Wild Flower Protection Section of the Society may give an annual subscripton of 50c per annum in addition to the subscription for the class to which they belong. Those wishing to become Members of the Society are invited to communicate with the Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, C.P.

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SOUTH AFRICAN

PERMANENT

BUILDING SOCIETY

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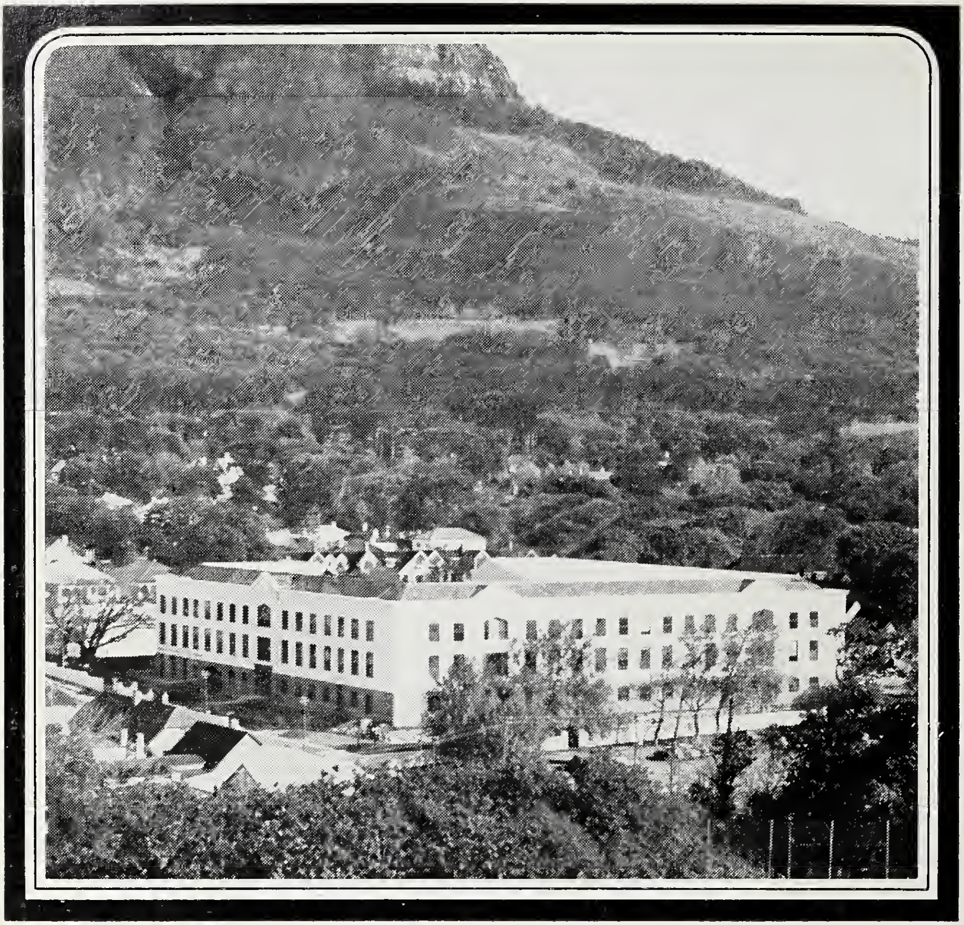

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PART 53, 1967

JOURNAL OF
THE BOTANICAL SOCIETY
OF SOUTH AFRICA

JAARBLAD VAN
DIE BOTANIESE VERENIGING
VAN SUID-AFRIKA

DEEL 53, 1967

"Investment schemes? John and I considered them all. For our money the best scheme is South African Permanent Subscription Shares."

SOUTH AFRICAN
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BUILDING SOCIETY
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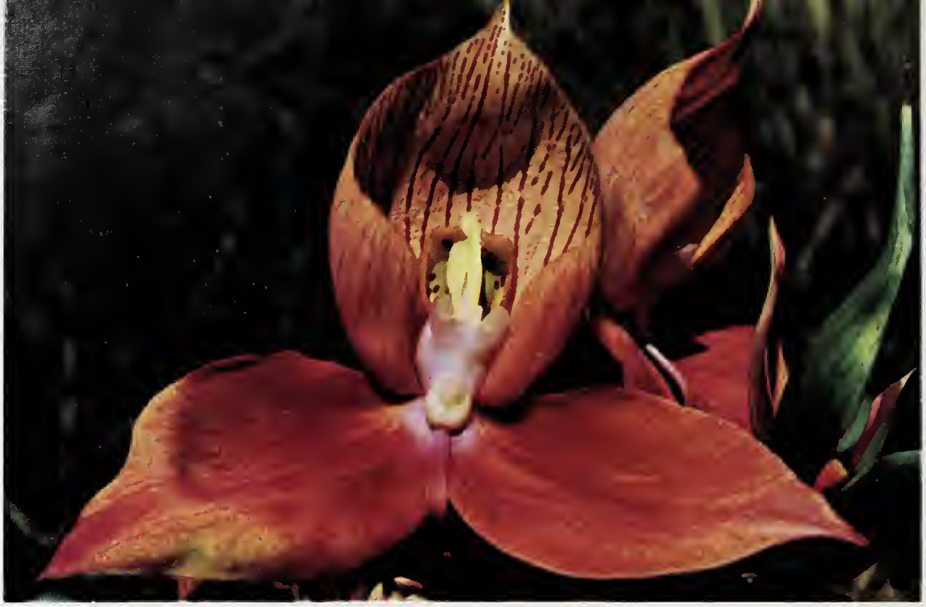
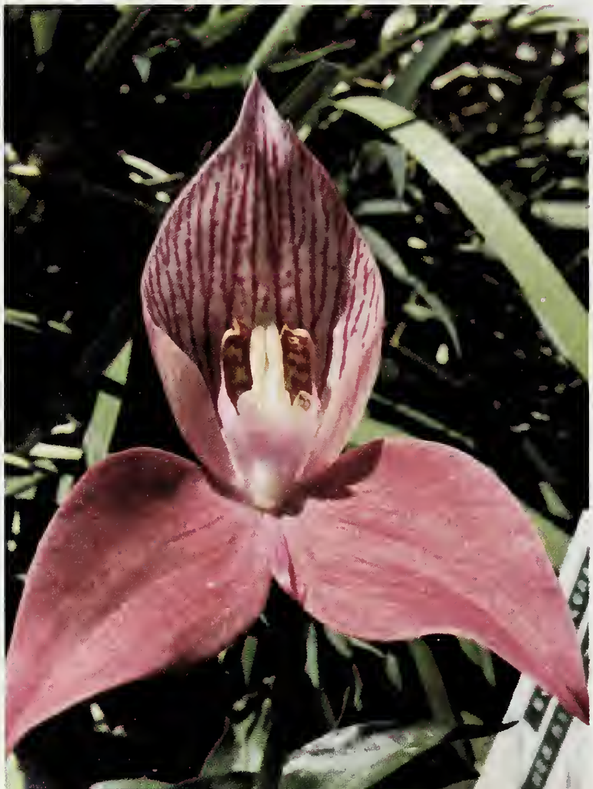
Photographs by Mr. K. C. Johnson, Newlands, Cape.



Disa uniflora



Disa vietchi (Hybrid between
D. uniflora and D. racemosa)

JOURNAL *of the Botanical Society of South Africa*
JAARBLAD *van die Botaniese Vereniging van Suid-Afrika*

PART/DEEL 53, 1967

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Ursinia geyeri—*Photograph/Foto: Mr. H. Hall*

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NEWS AND NOTES

NUUSBROKKIES

NEWS FROM SWEDEN

A letter has been received from Mr. S. E. Hellerstrom, Sweden (through Mrs. Margaret Lawder, one of our very active members who contributes articles on South African flora for many oversea journals):

"Your article in the Botanical Society's Journal is most interesting. Being myself a farmer and botanist, I should like to commentate. Yours is a flora of showy flowers. Here in south Sweden the wild flowers are, generally, not very conspicuous. The climate is dry, 20 inches per annum and rains come as a rule in harvest time. Bulbous plants are scarce. Beauty in nature consists chiefly of forests, beech, birch, oak, mixed with spruce and pine. Autumn and winter are rather mild, spring late and often frosty. Wild flowers will be out in May and then not much of them. Few days in the year will be devoid of some flower in the garden. Today, *Viburnum bodnantense* spreads its sweet scent. The great display comes when the daffodils fill every corner of the garden in April and May. Then the South Africans stand for colour in summer. Your annuals and some bulbs are perfectly happy with us. Of bulbs, *Nerines* and *Crinums* will last until November. These bulbs sometimes endure hard frost without damage. Otherwise, *Gazania*, *Arctotis*, *Dimorphotheca*, *Ursinia*, *Venidium*, *Nemesia* etc. fill the borders, often sowing themselves for next season; sometimes even wintering. *Anchusa capensis* with *Liniaria maroccana* are quite troublesome weeds, overgrowing *Freesia* and *Sparaxis*. These one must lift in the Fall. But the garden is chiefly a garden of trees, some hundred species, deciduous and conifers. Other evergreens will not do in this climate, which is too dry and capricious in Spring. Nor are *Rhododendrons* a success. Of conifers, species from China, Japan, California and even New Zealand and Tasmania will succeed. But no Africans, except *Cedrus atlantica*. We have no *Disa*, but under the Arctic Circle grows the beautiful *Calypso bulbosa*. This southern province where I live, is called the Garden of Sweden, but that is a more appropriate name for some mountainous regions far in the north, where there are no nights in summer and the flowers show up colours unknown here.

By chance I once met with your Professor Rycroft. We were both sorry it couldn't be arranged that he would come to see the Cape flowers so bright in a nordic garden."

FROM ISOLA D'ELBA, PROV. DI LIVORNO, ITALY

Mrs. Barbara Ingham has given a very interesting account of a protea plant, which is flowering in D'Elba, Italy:

NUUS UIT SWEDE

'n Brief is van mnr. S. E. Hellerstrom, Swede ontvang (deur mev. Margaret Lawder, een van ons baie aktiewe lede wat artikels oor Suid-Afrikaanse plantegroei vir etlike oorsese tydskrifte bydra):

„U artikel in die Botaniese Vereniging se tydskrif is uiters interessant. Aangesien ek self 'n boer en plantkundige is, sou ek graag kommentaar wil lewer. U flora bestaan uit pronkerige blomme. Hier in Suid-Swede is die veldblomme in die algemeen nie baie opvallend nie. Die klimaat is droog, 20 duim per jaar, en gewoonlik val die reëns gedurende die oestyd. Bolagtige plante is skaars. Skoonheid in die natuur bestaan hoofsaaklik uit bosse, beukebome, berkebome, eikebome, met spardenne en dennebome tussenin. Die herfs en winter is nie baie straf nie; die lente kom laat en daar is dikwels ryp. Veldblomme maak hul verskyning in Mei en dan is daar nie veel van hulle nie. Daar is min dae in die jaar wanneer daar nie 'n blom in die tuin sal wees nie. Vandag versprei *Viburnum nodnantense* sy lieflike geur. Die groot vertoning is aan die orde van die dag wanneer affodille elke hoek van die tuin in April en Mei vul. Dan vertoon die Suid-Afrikaanse blomme hul kleure in die somer. U eenjarige plante en sommige bolle is heeltemal gelukkig by ons. Van die bolle, sal *Nerinas* en *Crinums* tot November hou. Hierdie bolle kan soms kwaai ryp sonder skade verduur. Anders vul gousblomme, *Arctotis*, *Dimorphoteca*, *Ursinia*, *Venidiu*, *Nemesia* ens., die rande, en saai hulself dikwels vir die volgende seisoen; somtyds oorwinter hulle selfs. *Anchusa capensis* met *Liniaria maroccana* is heeltemal lastige onkruid en groei die *Freesia's* en *Sparaxis* toe. Vir hulle moet mens gedurende die herfs uithaal. Maar die tuin is hoofsaaklik 'n tuin met bome, etlike honderde soorte, bladwisselend en kegeldraende plante. Ander bladhoudende bome sal nie in hierdie klimaat aard nie, wat te droog en onberekenbaar in die Lente is. Die *Rododendrone* is ook nie 'n sukses nie. Van die kegeldraende plante sal die soorte uit China, Japan, Kalifornië en selfs Nieu-Seeland en Tasmanië slaag. Maar geen Afrikaanse soorte nie, behalwe *Cedrus atlantica*. Ons het geen Disa nie, maar onder die Noordpoolsirkel groei die fraai *Calypso bulbosa*. Hierdie suidelike provinsie waar ek woon, word genoem die Tuin van Swede, maar dit is 'n meer gepaste naam vir enige bergagtige streke ver in die noorde waar daar geen nagte in die somer is nie en die blomme in kleure voorkom wat hier onbekend is.

By toeval het ek eenkeer u professor Rycroft ontmoet. Ons was albei jammer dat dit nie gereël kon word dat hy die Kaapse blomme kon kom besigtig wat so kleurryk in 'n nordiese tuin was nie."

"You may be amused to know that Messrs. Butcher of Croydon, London, grew one of your protea seeds in 'some soil' and watered it with London, hard chlorinated water. I then travelled it by car on a five day journey (via friends) in a plastic bag in a hot summer. It is thriving beautifully in a limey soil with sequestrene and peat. It has red margins on its leaf, so it may be *obtusifolia*? When it flowers it will be the only protea in a very long way!"

Mrs. Ingham has also mentioned that "*Senecio glastifolius* was so showy that half the island begged plants and all these plants have seeded. It may yet become endemic on Elba!"

CANADA

Mr. D. G. F. Barton of Victoria, B. C., Canada, who recently enrolled as a member of our Society has written:

"I am particularly interested in the species *Agapanthus*, which do very well here, but there are a great many items in the seed lists that would not survive. If any of your members are at all interested in the following species, I would be glad to send seeds, either for distribution to members or in exchange: *Alstroemeria ligtu, Eccremocarpus scaber ruber, Iris innominata, Iris douglasiana, Phygelius capensis, Paulownia imperialis, Cornus nuttallii, Camassia quamash.*

"My wife and I have for some years operated a perennial plant nursery, but anno domini has forced us to reduce our commercial activities to growing only Oriental Poppies, of which we have the largest collection in Canada.

"It is possible that the species I have mentioned will not grow in your country, although one or two are natives, I think."

Members who are interested in Mr. Barton's offer, should write to him at the following address:
R.R. 5, Victoria, B. C., CANADA.

WILD DUCK SANCTUARY OPENED

Bellville is urgently in need of a "lung". This was the theme of Prof. H. B. Rycroft's address during the formal opening of a wild duck sanctuary in Welgemoed yesterday.

"South Africans", he said, "do not view with complacency the present rate of urban encroachment."

He congratulated the members of the Bellville Lions Club on their go-ahead approach to wild life preservation, and pledged the support of Kirstenbosch Botanic Gardens in beautifying the banks of the lake and establishing an indigenous flower belt.

Professor Rycroft is director of the National Botanic Gardens of South Africa. At the simple open-air ceremony held at the water's edge and attended by club members and their guests, Professor Rycroft cut the cable holding a floating breeding platform and declared the Bellville Lions Club Wild Duck Sanctuary open.

VAN ISOLA D'ELBA, PROV. DI LIVORNO, ITALIË

Mev. Barbara Ingham het 'n baie interessante beskrywing gegee van 'n protea-plant wat in D'Elba, Italië, blom:

„Dit mag u amuseer om te verneem dat mnre. Butcher van Croydon, Londen, een van u protea-sade in ‚sekere grond' gekweek het en dit met harde chloorwater van Londen benat het. Ek het dit toe per motor gestuur op 'n vyfdaagse rit (met vriende) in 'n plastieksakkie gedurende 'n warm somer. Dit gedy pragtig in kalkagtige grond met sequestrene en turf. Dit het rooi rande op die blaar; kan dit dus *obtusifolia* wees? Wanneer hy blom sal hy die enigste protea op 'n baie veraf geleë plek wees!"

Mev. Ingham het ook gemeld dat „*Senecio glastifolius* so pronkerig was dat die helfte van die eilandbevolking om plante versoek het en al hierdie plante het saad geskiet. Dit mag nog inheems op Elba word!"

KANADA

Mnr. D. G. F. Barton van Victoria, B. K., Kanada, wat onlangs as lid van ons Vereniging ingeskryf het, skryf:

„Ek stel veral belang in die plantsoort Agapant wat baie goed hier aard, maar daar is 'n hele aantal items op die saadlys wat dit nie wou maak nie. Indien enigeen van u lede enigsins in die volgende plantsoorte belang stel, sal ek graag saad stuur, hetsy vir verspreiding aan lede of in ruil:
Alstroemeria ligtu, Eccremocarpus scaber ruber, Iris innominata, Iris douglasiana, Phygelius capensis, Paulownia imperialis, Cornus nuttalii, Camassia quamash.

'n Aantal jare lank reeds hou my vrou en ek 'n kwekery vir meerjarige plante aan die gang, maar die klimmende jare het ons gedwing om ons handelsbedrywighede te beperk tot die kweek alleen van Oosterse papawers waarvan ons die grootste versameling in Kanada besit.

Dit is moontlik dat die plantsoorte wat ek genoem het, nie in u land sal groei nie, alhoewel een of twee soorte vermoedelik inheems is."

Lede wat belang stel in mnr. Barton se aanbod moet aan hom skryf by die volgende adres:
R.R. 5, Victoria, B. C., CANADA.

RESERVAAT VIR WILDE-EENDE GEOPEN

Bellville het dringend behoefte aan 'n „long". Dit was die tema van prof. H. B. Rycroft se rede gedurende die formele opening gister van 'n reservaat vir wilde-eende in Welgemoed.

„Suid-Afrikaners", het hy gesê, „beskou nie die huidige tempo van stedelike indringing sonder bekommernis nie."

Hy het die lede van die Lions Club Bellville gelukgewens met hul daadwerklike benadering tot die behoud van die natuurlewe, en die steun van die Botaniese Tuin Kirstenbosch beloof vir die verfraaiing van die oewers van die meer en die daarstelling van 'n strook van inheemse blomme.

Professor Rycroft is direkteur van die Nasionale

Three pairs of yellowbill and three pairs of Egyptian ducks were liberated by Mr. S. Atkinson, Secretary of the Cape Game Society.

Cape Times, 21 *June* 1967

BLYDE RIVER CANYON (EASTERN TRANSVAAL)

According to a report given by the Director of Nature Conservation, Mr. T. J. Steyn, work was expected to start this year on a 1 million Rand resort at the Blyde River Canyon, eastern Transvaal. Mr. Steyn was reported to have said that difficulties with the construction of this resort were foreseen owing to the isolation of the area, but this fact should make the spot ideal for holidaymakers seeking peace and quiet.

A group of lecturers and students from the University of the Witwatersrand, who conducted an exploratory ecological survey in the area, found several rare and unusual plants. They found in bloom the Transvaal's most beautiful protea, *Protea rubropilosa*, which grows only in the mist belt area and they also saw the *Psilotum*, a very rare, primitive plant related to ferns.

The ecological survey of the canyon is expected to take at least five years. It is being done with the co-operation of the Department of Nature Conservation, for whom the University's Botany Department plans to produce a brochure on the vegetation of the area.

Referring to her visit to the Blyde River Canyon, Mrs. C. Hardiman, of Lyttelton, Transvaal writes:

"On a recent visit to the Blyde River Canyon in the Eastern Transvaal, (where the firm I work for has a contract) we found a number of gorgeous red protea, which has since been identified as *Protea rubropilosa*. After scrounging around for some time, we discovered the enclosed seed under one of the bushes, and as I am scared to risk planting them myself, I am forwarding them to you in the hope that under your (that is, Kirstenbosch's) expert care, they will germinate and grow to maturity in the right surroundings.

"We visit the site often and although it is difficult to reach these plants, (they grow only on the hang of the mountain inside the Canyon) it is not impossible to get to them. The area is infested with mamba in the summer months and due to this danger we are rather cautious about going down the cliff. In one spot, also, there is a drop of approximately 3,000 feet. Needless to say, the scenery is breathtaking.

"Wild flowers abound in this area and at the moment, after abundant rain, we find our trips most interesting and we do try to identify as many of the plants as possible. Cythna Letty's book on 'Wild Flowers of the Transvaal' comes in very handy.

"Unfortunately, my time, too, is very limited and the Transvaal Provincial Administration is busy fencing off the road, which means that we are restricted to a very small area in which to move. This, I suppose, is understandable, as the Blyde River Canyon lies within a native reserve.

Botaniese Tuine van Suid-Afrika. By geleentheid van 'n eenvoudige plegtigheid gehou aan die rand van die water en bygewoon deur klublede en hul gaste, het professor Rycroft die kabel besny wat 'n drywende broeiplatform hou en die Wilde-eend-reservaat van die Lions Club Bellville geopen verklaar.

Drie paar geelbek- en drie paar Egiptiese eende is deur mnr. S. Atkinson, Sekretaris van die Kaapse Wildvereniging vrygelaat. *Cape Times*, 21 *Junie* 1967

BLYDE-RIVIER-CANYON (OOS-TRANSVAAL)

Volgens 'n verslag gelewer deur die Direkteur van Natuurbewaring, mnr. T. J. Steyn, is daar verwag dat daar vanjaar met werk begin sou word aan die vakansieoord van 1 miljoen Rand aan die Blyde-rivier-canyon, Oos-Transvaal. Na berig word, het mnr. Steyn verklaar dat moeilikhede met die aanleg van hierdie vakansieoord in die vooruitsig gestel is weens die afgesonderdheid van die streek, maar hierdie feit behoort die plek ideaal te maak vir vakansiegangers op soek na stilte.

'n Groep lektore en studente van die Universiteit van die Witwatersrand wat 'n ekologiese proefopname in die gebied onderneem het, het verskeie seldsame en buitengewone plante gevind. Hulle het gevind dat die Transvaal se fraaiste protea, *Protea rubropilisa* in blom was wat alleen in die misgordelgebied groei en hulle het ook die *Psilotum*, 'n baie seldsame, primitiewe plant gesien wat aan varings verwant is.

Na verwagting sal die ekologiese opname van die canyon minstens vyf jaar in beslag neem. Dit word gedoen met die samewerking van die Departement Natuurbewaring vir wie die Universiteit se Departement Plantkunde van plan is om 'n brosjure oor die plantegroei van die gebied op te stel.

Met verwysing na haar besoek aan die Blyde-rivier-canyon, skryf mev. C. Hardiman, van Lyttelton, Transvaal:

„By geleentheid van 'n onlangse besoek aan die Blyde-rivier-canyon in Oos-Transvaal, (waar die firma vir wie ek werk 'n kontrak het), het ons 'n aantal lieflike rooi protea's gevind wat sedertdien as *Protea rubropilosa* geïdentifiseer is. Nadat ons 'n tydlank rondgekrap het, het ons die ingeslote saad onder een van die bosse aangetref en aangesien ek bang is om dit te waag om hulle self te plant, stuur ek hulle aan u in die vertroue dat onder u deskundige sorg (d.w.s. dié van Kirstenbosch), hulle sal ontkiem en in die regte omgewing tot volgroeidheid sal ontwikkel.

„Ons besoek dikwels die terrein en alhoewel dit moeilik is om hierdie plante te bereik (hulle groei alleen aan die hang van die berg binne die canyon) is dit nie onmoontlik om hulle te bereik nie. Die gebied is vervuil van mambaslange in die somermaande en vanweë hierdie gevaar, is ons ietwat versigtig om langs die hang af te gaan. Op een plek is daar ook 'n val van ongeveer 3,000 voet. Dit spreek vanself dat die natuurskoon asemrowend is.

„Veldblomme gedy in hierdie gebied en op die oomblik, na volop reën, vind ons ons uitstappies uiters interessant en probeer ons om so veel van die

"Our trip takes us past Branddraai where there is a vast amount of aloes and during the months of April and May when these plants are in full bloom, the name aptly describes the scene."

BOTANICAL SOCIETY'S EXHIBITION—"A GARDEN OF SOUTH AFRICAN WILD FLOWERS"

The dates of this exhibition have been arranged for 2–7 *October*, in the Lecture Hall, Kirstenbosch. Exhibits in the nature of art needlework, copper work and paintings, where flowers indigenous to South Africa have been used as the theme, will be displayed.

Entry forms received indicate that exhibits will take the form of embroidered tea cloths, table cloths, firescreens, cushion covers, bedspreads, firescreens in copperwork, wild flower paintings, tapestries, pressed flowers in frames, wood inlay work, table mats, Swedish glass-ware engraved with succulent plants, painted wild flower maps, bookmarks of pressed flowers, painting on glass and tiles, pewter work, petitpoint work, paintings on silk, paintings on greeting cards, vases, teashowers, china and lampshades.

Some exhibits which have already been received, are outstandingly beautiful.

Mrs. Kathleen Reynolds, (wife of the late Dr. G. W. Reynolds) has written to tell us that plans are being made to transfer her husband's plant collection from their home in Mbabane, Swaziland, to the Mlilwane Game Sanctuary. The proposed site for this collection surrounds a small museum/research centre near the Rest Camp.

Their daughter, Miss Liz Reynolds, has been taking an active botanical interest in the flora of the Mlilwane area, collecting plant specimens for a herbarium which she plans to establish there. Professor R. H. Compton has been assisting and guiding her in this undertaking.

"THE BATTLE OF BETTY'S BAY"

We record our sincere appreciation of the gallant efforts made by a dedicated group of people in eradicating alien vegetation in the Betty's Bay area. This group, ably led by Mr. Denys Heesom, regularly sacrifice their time at week-ends, in endeavouring to combat the threat to indigenous flora in this area.

NATURE CONSERVATION LECTURE

Members of our Society were invited to attend a lecture given by the Director of Nature Conservation, Dr. D. Hey, at the University of Cape Town, on the evening of May 11th. The subject of Dr. Hey's interesting address was "The Relationship between Geography and Nature Conservation in South Africa" and was followed by a colour film showing nature conservation practices.

plante as moontlik te identifiseer. Cythna Letty se boek oor ‚Wild Flowers of the Transvaal' kom uiters goed te pas.

„Ongelukkig is my tyd ook baie beperk en die Transvaalse Provinsiale Administrasie omhein tans die pad, wat beteken dat ons tot 'n baie klein gebied beperk is waarin ons kan beweeg. Ek veronderstel dit is verstaanbaar, aangesien die Blyde-rivier-canyon binne 'n Bantoe-reservaat lê.

„Ons rit neem ons verby Branddraai waar daar 'n groot aantal aalwyne is en gedurende die maande April en Mei, wanneer hierdie plante in volle blom is, beskryf die naam die toneel heel paslik."

BOTANIESE VERENIGING SE TENTOONSTELLING—„'N TUIN MET SUID-AFRIKAANSE VELDBLOMME"

Die datums van hierdie tentoonstelling is vir 2–7 *Oktober*, in die Lesingsaal, Kirstenbosch, gereël. Uitstallings in die aard van kunsnaaldwerk, koperwerk en skilderye, waar inheemse blomme van Suid-Afrika as die tema gebruik is, sal vertoon word.

Inskrywingsvorms wat ontvang is, dui aan dat uitstallings die vorm sal aanneem van geborduurde teekleedjies, tafelkleedjies, brandskerms, kussing-oortrekke, bedspreie, brandskerms van koperwerk, skilderye van veldblomme, tapisserieë, geperste blomme in rame, houtinlegwerk, tafelmatte, Sweedse glasware gegraveer met vetplante, kaarte met veldblomme geskilder, boeklêers van geperste blomme, skilderye op glas en teëls, piouterwerk, tentsteekwerk, skilderye op sy, skilderye op Kers- en verjaardagkaartjies, vase, teespreie, porselein en lampkappe.

Sommige uitstallings wat reeds ontvang is, is opvallend mooi.

Mev. Kathleen Reynolds, (eggenote van wyle dr. G. W. Reynolds) het aan ons geskryf en meegedeel dat planne beraam word om haar man se planteversameling te verskuif van hul huis in Mbabane, Swaziland, na die Mlilwane-wildreservaat. Die beoogde terrein vir hierdie versameling omring 'n klein museum/navorsingsentrum naby die ruskamp.

Hul dogter, mejuffrou Liz Reynolds stel aktief plantkundig belang in die flora van die Mlilwane-gebied, en versamel plantsoorte vir 'n herbarium wat sy voornemens is om daar op te rig. Professor R. H. Compton het haar in hierdie onderneming gehelp en van raad bedien.

„DIE SLAG VAN BETTYSBAAI"

Ons wens ons innige waardering te boekstaaf vir die moedige pogings aangewend deur 'n groep toegewyde mense deur uitheemse plantegroei in die Bettysbaai-gebied uit te roei. Hierdie groep wat onder die ervare leiding staan van mnr. Denys Heesom, offer gereeld hul tyd gedurende naweke op om die bedreiging vir die inheemse plantegroei in hierdie gebied te probeer bekamp.

LESING OOR NATUURBEWARING

Lede van ons Vereniging is uitgenooi om 'n lesing by te woon wat gehou is deur die Direkteur van

REQUEST FROM CALIFORNIA

Mr. W. Irwin, of P.O. Box 189, Brookdale, California, has made the following request:

"I would like to exchange seeds of American natives and their hybrids with a member or members of the Botanical Society of South Africa. I would like seeds of bulbous or cormous material, succulents, flowering shrubs and perennials which will grow in a winter rain, summer drought area with frosts 20° F. and summer heat to 100° F or more. I have been growing and hybridizing various West Coast American plants, in particular the western *Lilium* and some work on our *Azalea, Rhododendron occidentale*."

Interested members are invited to correspond with Mr. Irwin.

PUBLICATION ON SOUTH AFRICAN ORCHIDS

Dr. E. A. C. L. E. Schelpe, a member of the Botanical Society Council, who is the Curator of the Bolus Herbarium and Senior Lecturer in Taxonomy at the University of Cape Town, has recently published a book entitled: "An Introduction to the South African Orchids".

AWARD FOR PROFESSOR F. L. WARREN

Professor F. L. Warren, Head of the Science Faculty, University of Cape Town, who has recently been appointed to the Botanical Society's Council, has been nominated to receive the Gold Medal of Science. We congratulate Professor Warren most sincerely on this great honour.

ADIEU TO MR. AND MRS. A. J. M. MIDDLEMOST

Members of the Botanical Society, Cape Horticultural Society and Cape Natural History Club extended good wishes to Mr. and Mrs. Middlemost of Kirstenbosch at a farewell function given in their honour by the Trustees, National Botanic Gardens. This occasion marked Mr. Middlemost's retirement from the staff of Kirstenbosch after a period of 45 years. We are greatly indebted to Mr. Middlemost for his invaluable help given so readily at all our Society's meetings and particularly at the annual Wild Flower Show.

Mrs. Middlemost, who for many years has been in charge of serving refreshments at our meetings, has in her quiet, unobtrusive manner, greatly contributed to the success of our functions.

We wish them both a happy holiday oversea.

JAPAN

We were very pleased to meet and welcome to our membership, Dr. Jiro Mishima, of the Zoology Institute, Tokyo Kyoiku University, Japan, recently. Dr. Mishima visited the Cape in the Icebreaker *Fuji*. Writing from Ceylon, he mentioned: "It was really wonderful to visit your botanical garden. The beautiful Protea, historically famous Papyrus and other curious plants (many of them were very strange when compared to our flora) were so impressive. Now I am very

Natuurbewaring, dr. D. Hey, aan die Universiteit van Kaapstad, in die aand van 11 Mei. Die onderwerp van dr. Hey se interessante lesing was „The Relationship between Geography and Nature Conservation in South Africa" en is deur 'n kleurrolprent gevolg wat gebruike in natuurbewaring aantoon.

VERSOEK UIT KALIFORNIË

Mnr. W. Irwin, van Posbus 189, Brookdale, Kalifornië, het as volg versoek:

„Ek sou graag saad van inheemse Amerikaanse plante en hul hibrides met 'n lid of lede van die Botaniese Vereniging van Suid-Afrika wil uitruil. Ek verlang saad van bolplante of stingelknolagtige (cormous) materiaal, vetplante, blomstruike en meerjarige plante wat sal groei in 'n winterreën-, somerdroogtegebied met ryp 20° F en somerhitte tot 100° F of hoër. Ek kweek en kruis verskillende plante van die Amerikaanse Weskus, in besonder die westelike *Lilium* en het 'n mate van werk verrig in verband met ons *Asalea, Rhododendron occidentale*."

Belangstellende lede word uitgenooi om met mnr. Irwin te korrespondeer.

PUBLIKASIE OOR SUID-AFRIKAANSE ORGIDEË

Dr. E. A. Schelpe, 'n lid van die Raad van die Botaniese Vereniging, wat die kurator is van die Bolus-herbarium en senior lektor in taksonomie aan die Universiteit van Kaapstad, het onlangs 'n boek gepubliseer, getitel: „An Introduction to the South African Orchids".

TOEKENNING AAN PROFESSOR F. L. WARREN

Professor F. L. Warren, Hoof van die Fakulteit Wetenskap, Universiteit van Kaapstad, wat onlangs aangestel is in die Raad van die Botaniese Vereniging, is benoem om die Goue Medalje vir Wetenskap te ontvang. Ons wens professor Warren hartlik geluk met hierdie groot eer.

VAARWEL AAN MNR. EN MEV. A. J. M. MIDDLEMOST

Lede van die Botaniese Vereniging, die Kaapse Tuinboukundige Vereniging en die Kaapse Natuurstudieklub het hul goeie wense oorgebring aan mnr. en mev. Middlemost van Kirstenbosch by geleentheid van 'n afskeidsfunksie wat ter ere van hulle gegee is deur die Trustees, Nasionale Botaniese Tuine. Hierdie geleentheid was ter ere van mnr. Middlemost se uittreding uit die personeel van Kirstenbosch na 'n tydperk van 45 jaar. Ons is groot dank verskuldig aan mnr. Middlemost vir sy onskatbare hulp wat hy so geredelik verleen het tydens al die vergaderings van ons Vereniging en veral gedurende die jaarlikse Veldblommetentoonstelling.

Mev. Middlemost wat jare lank in beheer was van die bediening van verversings op ons vergaderings, het op haar stil, onopvallende manier baie tot die welslae van ons funksies bygedra.

Ons wens hulle albei 'n gelukkige vakansie oorsee toe.

proud that I am a member of the Society and I plan to stick the parking disc on the windshield of my car in Tokyo."

MOROCCO

Major F. H. Mellor, of 31 Ain Hyani, Tangier, Morocco has made the following request:

"I shall be grateful if you could put me in touch with any member interested in *Moreas* as I am very interested in them and want seed and advice. I could reply with seed of the Moroccan Iris species, which should do well in the Cape."

LECTURE ON AUSTRALIAN WILD FLOWERS

Members of the Botanical Society of S.A. were invited to join members of the Cape Horticultural Society at a lecture given by Mr. Keith Ashby of Australia, on "Australian Wild Flowers". This was held in the Botany Department Hall, University of Cape Town, on the 8th of May.

Mr. Ashby, who is one of the best-known horticultural personalities in Australia, has a large collection of South African *Proteaceae* and *Ericaceae* growing on his property in South Australia. He has willed this show property in the Mount Lofty area to the Botanic Garden, Adelaide, who will care for it as part of their estate. Mr. Ashby is a brother to the renowned Australian wildflower artist, Miss Alison Ashby.

A PRECIOUS LEGACY

Sometimes, in the bewildering changes and contrasts of the modern world, it seems as if we are just entering on the earliest phase of a new civilisation which is to be of a kind that has never before existed on earth. Yet, however he may change his ideas and surroundings, even in an urbanised, industrialised, mechanised, computerised civilisation, man will still be man, he will still depend on the weather and the cycle of the seasons to enable him to produce the food without which he cannot live, and he will still feel a movement of the heart when the signs of coming spring make their appearance.

Fortunately for himself, he is able to take for granted that day and night will always follow each other and to be certain, in the depth of the coldest and dreariest winter, that in due course spring will make her appearance with as much punctuality as is expected of her sex. When she does arrive, not only does she quicken all growing things, but also she often crowns her handiwork with a marvellous decoration in the form of a carpet of flowers. In this respect it seems that this year she has surpassed herself in the places where she has paused in the course of her journey southwards.

Even in the dry Karoo, the people have been given this winter a chance to renew their old acquaintance with rain, and some have even seen snow for the first time. The result is that even in arid regions the bare ground has been covered by the sudden appearance of millions of flowers, with that fearless brilliance of colour that is so characteristic of Africa.

JAPAN

Dit het ons onlangs groot genoeë verskaf om kennis te maak met dr. Jiro Mishima, van die Dierkunde-instituut, Tokio Kyoiku-universiteit, Japan en om hom as lid te verwelkom. Dr. Mishima het die Kaap in die ysbreker *Fuji* besoek. In 'n brief uit Ceylon skryf hy:

,,Dit was beslis wonderbaarlik om u botaniese tuin te besoek. Die pragtige Protea, geskiedkundig beroemde papirus en ander eienaardige plante (baie van hulle was baie uitsonderlik wanneer met ons plant-soorte vergelyk) was so indrukwekkend. . . . Nou is ek baie trots daarop om lid van die Vereniging te wees en ek is van plan om die parkeerskyfie op die voorruit van my motor in Tokio aan te bring."

MAROKKO

Majoor F. H. Mellor, van Ain Hyani 31, Tanger, Marokko, het as volg versoek:

,,Ek sal dankbaar wees indien u my in verbinding kan stel met enige lid wat in *Moreas* belang stel, aangesien ek baie in hulle belang stel, en graag saad en raad verlang. Ek kan antwoord met saad van die Markokaanse Iris-soort, wat goed aan die Kaap behoort te aard."

LESING OOR AUSTRALIESE VELDBLOMME

Lede van die Botaniese Vereniging van S.A. is uitgenooi om aan te sluit by lede van die Kaapse Tuinboukundige Vereniging by geleentheid van 'n lesing gehou deur mnr. Keith Ashby van Australië, oor ,,Australian Wild Flowers". Dit is in die Saal van die Departement Plantkunde, Universiteit van Kaapstad, op 8 Mei gehou.

Mnr. Ashby wat een van die bekendste tuinboukundige persoonlikhede in Australië is, besit 'n groot versameling Suid-Afrikaanse *Proteaceae* en *Ericaceae* wat op sy eiendom in Suid-Australië groei. Hy het hierdie tentoonstellingseiendom in die Mount Lofty-gebied bemaak aan die Botaniese Tuin, Adelaide, wat dit as deel van hul landgoed sal versorg. Mnr. Ashby is 'n broer van die bekende kunstenares van Australiese veldblomme, mej. Alison Ashby.

'N KOSBARE ERFENIS

Soms, te midde van die verbrysterende veranderings en kontraste van die moderne wêreld, skyn dit asof ons so pas die vroegste fase binnegaan van 'n nuwe beskawing wat van sodanige aard is asof dit nog nooit tevore op aarde bestaan het nie. Tog, hoe hy ook al sy opvattings en omgewing mag verander, selfs in 'n verstedelikte, geïndustrialiseerde, gemeganiseerde beskawing met elektroniese rekenmasjiene, sal die mens tog maar mens bly; hy sal nog steeds afhanklik wees van die weer en die kringloop van die siesoene om hom in staat te stel om die voedsel te produseer waarsonder hy nie kan leef nie en hy sal nog steeds 'n trilling van die hartsnare voel wanneer die tekens van die komende lente hul verskyning maak.

Gelukkig vir hom, kan hy dit as vanselfsprekend beskou dat dag en nag mekaar altyd sal opvolg en

We are indeed fortunate that Nature has endowed our country with a flora so rich in beauty and variety and so lavish in quantity. All South Africans share in this heritage, which is not the reward of labour or of merit, but a free gift of Nature, and which we are required neither to earn nor to deserve. All that we are called upon to do is, so far as possible, to keep this heritage intact for our descendants, and not to allow it to be frittered away, either for the sake of money or merely by acts of heedless destruction. Happily, more and more people are coming to appreciate this obligation, so that there is now good reason to hope that the precious inheritance may be handed down safely to posterity and that our great-grandchildren may derive as much pleasure as ourselves from the flowers that bloom, so wondrously, in the spring.

Cape Argus, 29 *July* 1967

GILBERT REYNOLDS

Dr. Gilbert Reynolds, whose death we reported on Saturday, was more than a distinguished authority on the aloes of Africa; he was a living demonstration that, even in this era of computerized technology, when some men of science have been heard to say that research is impossible now except on a team-work basis, there is still room for the amateur. Gilbert Reynolds's acquaintance with aloes began only in about 1936, when he dug up an aloe in the veld and took it home to plant in his garden. That specimen died, but in dying it must have enlivened his interest, because aloes speedily became an obsession with him. And finding that the literature was inadequate and conflicting in sorting out the aloes he found in South Africa, he began his own sorting out, and in due course there formed in his mind the ambition to write the definitive book on South African aloes. And not only that: he determined that, to avoid the absurdities that have arisen in writings about this and other genera on the strength of herbarium specimens alone, he would visit, study and photograph every species in its natural habitat.

When his great "Aloes of South Africa" first appeared in 1950, therefore, it was immediately acclaimed by professional botanists.

Not content with that Reynolds, then sought wider horizons and started a companion book on the aloes of tropical Africa, including Madagascar. The two books together are as close an approach to a definitive treatise on this vast genus as it is possible to get. In his second book he made himself visit each species, as in the first.

But here, all Africa and Madagascar being his field, the mileage and the labours were considerably greater. In fact his travels in search of aloes far exceeded the mileage of any of the famous African travellers of the past. And he was neither a young man nor a fit man. For an optometrist to plunge into the thick of taxonomic botany (and on a difficult genus) and emerge with the acclaim of the professionals, should be a standing inspiration to other amateurs.

Cape Times Editorial, 10 *April* 1967

seker wees, in die hartjie van die koudste en triestigste winter, dat die lente mettertyd haar verskyning met dieselfde stiptheid sal maak as wat mens van haar geslag kan verwag. Wanneer sy opdaag, verhaas sy nie alleen die polsslag van alle lewende dinge nie, maar sy bekroon ook dikwels haar handewerk met 'n wonderbaarlike versiering in die vorm van 'n blomtapyt. In hierdie opsig wil dit voorkom of sy haar vanjaar oortref het in die plekke waar sy in die loop van haar reis na die suide stilgestaan het.

Selfs in die droë Karoo is die mense hierdie winter die geleentheid gebied om hul ou kennis met reën te vernuwe en sommige het selfs sneeu vir die eerste maal gesien. Die gevolg is dat selfs in die droë sterke die kaal grond bedek is met die skielike verskyning van miljoene blomme, met daardie vreeslose skittering van kleur wat so kenmerkend van Afrika is.

Ons is beslis gelukkig dat die Natuur ons land toebedeel het met 'n plantegroei so weelderig in prag en verskeidenheid en so oorvloedig in hoeveelheid. Alle Suid-Afrikaners deel in hierdie erfenis wat nie die beloning vir arbeid of meriete is nie maar 'n vrye geskenk van die natuur en wat nie van ons vereis om dit te verdien of om daarop geregtig te wees nie. Al wat van ons verlang word, is om so ver moontlik, hierdie erfenis ongeskonde te bewaar vir ons nakomelinge en om nie toe te laat dat dit verspil word, hetsy vir winsbejag of bloot deur dade van doellose vernietiging nie. Gelukkig besef steeds meer mense hierdie verpligting sodat daar nou goeie rede is om te hoop dat die kosbare erfenis veilig aan die nageslag oorhandig kan word en dat ons agterkleinkinders dieselfde genot as ons self van die blomme wat so wonderbaarlik in die lente ontluik, kan smaak.

Cape Argus, 29 *Julie* 1967

GILBERT REYNOLDS

Dr. Gilbert Reynolds van wie se dood ons Saterdag berig het, was meer as 'n uitnemende deskundige oor die aalwyne van Afrika; hy was 'n lewende bewys daarvan dat selfs in hierdie eeu van elektroniese tegnologie, wanneer gehoor is dat sommige wetenskaplikes gesê het dat navorsing nou onmoontlik is behalwe op 'n spanwerk-grondslag, daar nog plek vir die amateur is. Gilbert Reynolds se kennismaking met aalwyne het slegs in omstreeks 1936 begin toe hy 'n aalwyn in die veld opgegraaf en dit huis toe geneem het om in sy tuin te plant. Daardie plant het doodgegaan, maar deur dood te gaan, moes dit sy belangstelling geprikkel het omdat aalwyne spoedig 'n obsessie by hom geword het. En nadat hy gevind het dat die literatuur ontoereikend en botsend was toe hy die aalwyne wat hy in Suid-Afrika aangetref het, gesorteer het, het hy self begin sorteer: en mettertyd het die gedagte by hom posgevat om die bepalende boek oor Suid-Afrikaanse aalwyne te skryf. En nie dit alleen nie: hy het, om die absurditeite te vermy wat ontstaan het in geskrifte oor hierdie en ander genera volgens herbariumsoorte alleen, besluit om elke soort in sy natuurlike omgewing te besoek, te bestudeer en te fotografeer.

DR. G. J. LEWIS

Dr. G. J. Lewis, who was a member of the Botanical Society's Council since 1946, passed away suddenly on 11th April. Dr. Lewis always assisted at the Society's Wild Flower Show with identifying and naming the various specimens brought for exhibition. As Botanical Research officer on the Gardens staff at the Compton Herbarium, she was concerned mainly with studies on the family *Iridaceae*. She will always be remembered for her critical work on *Babiana*, *Ixia*, *Hexaglottis*, *Tritoniopsis* and *Anapalina*. More important perhaps is her work on the species of Gladiolus in South Africa. At the time of her untimely death she was concentrating on this difficult genus and her manuscript was largely complete.

I consider that it is most important that the work should be published and we are most grateful to Mrs. A. A. Mauve of the Botanical Research Institute in Pretoria who has undertaken to complete the work. When published, it will be a most fitting Memorial to Joyce Lewis and her valuable work.

NATIONAL BOTANIC GARDENS STAFF

Assistant Director: Mr. P. J. Grobler assumed duty on 1 November, 1966. During his short time with us he has proved most capable and is certainly a great help to me. We hope he will be "one of us" for many years to come, to our mutual benefit.

Mr. W. P. Topper, Curator of the Harold Porter Botanic Reserve, Betty's Bay, resigned on 31 December, 1966. Mr. Wessel C. Ebersohn has been appointed as from 1 November, 1967. In the interim period the Reserve was visited fortnightly by the Chief Curator of Kirstenbosch. Our very grateful thanks are due to Mr. Marais and the four Bantu labourers for the excellent way in which this Reserve was maintained without a resident Curator.

Mr. Frank Stayner, Curator of the Karoo Garden, Worcester, was away on sick leave from March to September, 1966. I am pleased to say that he is now completely recovered. During his absence the late Mr. Littlewood was in charge of the Karoo Gardenland and coped excellently.

Lady Horticulturist at Kirstenbosch: In the early thirties Kirstenbosch employed a number of Lady Gardeners. Since then horticulture has been a man's world! I am glad to report that the Department has approved the appointment of Miss Theodora K. Green who started with us on 1 November, 1967. Miss Green holds a B.Sc. degree in Botany and a Diploma in Horticulture. She has had many years of horiticultural experience and will eventually be in charge of the Seed Section.

Edward Muspratt Solly Scholarship: For 1967 this Scholarship was awarded to Miss Suzelle Ferreira, B.Sc., a graduate of the University of the O.F.S. With the co-operation of Prof. P. G. Jordaan arrangements were made for Miss Ferreira to study for B.Sc. Honours at the University of Stellenbosch. She spent only two

Toe sy beroemde „Aloes of South Africa" dus eerste in 1950 verskyn het, is dit onmiddellik deur beroepsplantkundiges toegejuig.

Nie tevrede daarmee nie, het Reynolds sy visiere hoër gestel en met 'n bybehorende boek oor die aalwyne van tropiese Afrika, insluitend Madagaskar, begin. Die twee boeke tesame is die naaste bepalende verhandeling oor hierdie reuse-genus as wat dit moontlik is om te kry. In sy tweede boek het hy elke soort besoek, soos die geval was met die eerste.

Maar hier was die mylafstande en die arbeid veel groter aangesien die hele Afrika en Madagaskar sy veld was. Trouens, sy reise op soek na aalwyne het die mylafstande van enigeen van die beroemde Afrikaanse reisigers van die verlede ver oorskry. En hy was nie 'n jong of gesonde man nie. Vir 'n gesigkundige om die sprong te waag op die gebied van die taksonomiese plantkunde (en oor 'n moeilike genus) en om lof toegeswaai te word deur die beroepsmense, behoort 'n gedurige inspirasie vir ander amateurs te wees.

Cape Times-Hoofartikel, 10 *April* 1967

DR. G. J. LEWIS

Dr. G. J. Lewis wat sedert 1946 lid was van die Botaniese Vereniging se Raad, het skielik op 11 April heengegaan. Dr. Lewis het altyd hulp verleen tydens die Vereniging se Veldblommetentoonstelling deur die verskillende soorte wat vir vertoning bebring is, te identifiseer en name aan hulle toe te ken. As Botaniese navorsingsbeampte by die Tuinepersoneel by die Compton-herbarium, was sy veral gemoeid met die bestudering van die Iridaceae-familie. Sy sal altyd onthou word vir haar kritiese werk oor *Babiana*, *Ixia*, *Hexaglottis*, *Tritoniopsis* en *Anapalina*. Belangriker miskien is haar werk oor die Gladiolus-soorte in Suid-Afrika. Ten tyde van haar ontydige dood het sy op hierdie moeilike soort gekonsentreer en haar manuskrip was in groot mate voltooi.

Ek beskou dit as uiters belangrik dat die werk gepubliseer moet word en ons is baie dank verskuldig aan mev. A. A. Mauve van die Botaniese Navorsingsinstituut in Pretoria wat onderneem het om die werk te voltooi. Wanneer dit gepubliseer is, sal dit 'n uiters gepaste Aandenking aan Joyce Lewis en haar waardevolle werk wees.

PERSONEEL VAN DIE NASIONALE BOTANIESE TUINE

Assistent-direkteur: Mnr. P. J. Grobler het op 1 November 1966 diens aanvaar. Gedurende sy kort verblyf in ons midde het hy uiters bekwaam geblyk en hy is beslis tot groot hulp vir my. Ons vertrou dat hy nog baie jare lank tot ons onderlinge voordeel, „een van ons" sal wees.

Mnr. W. P. Topper, Kurator van die Botaniese Reservaat Harold Porter, Bettysbaai, het op 31 Desember 1966 bedank. Mnr. Wessel C. Ebersohn is vanaf 1 November 1967 aangestel. In die tussentydperk het die Hoofkurator van Kirstenbosch die reservaat elke veertien dae besoek. Ons innige dank gaan uit na mnr. Marais en die vier Bantoe-arbeiders vir die days per week at Stellenbosch, while all her field projects were undertaken at Kirstenbosch.

OLIVE MAY PORTER BRIDGE, BETTY'S BAY

On 14 January, 1967 we were indeed honoured to have Mrs. O. M. Porter herself as our main guest at the official opening of the pedestrian bridge which is named after her. Mrs. Porter performed the ceremony and in a delightful speech declared the bridge open to pedestrian traffic. It was a very happy occasion and was attended by many friends of the Porter family and the Institution. We are very grateful to the Porter family for their never-failing interest and support.

TOUR OF EUROPE AND THE U.K.

I have been requested by a local travel agency to lead a tour from South Africa to some of the best known Gardens in Europe and the United Kingdom in April-May 1968. During 1967 a similar tour was arranged and it was a grand success. Mr. Gerald Feinauer, who at that time was Senior Horticulturist at Kirstenbosch and who is now the first Curator of the Free State Botanic Garden at Bloemfontein, was the leader. I hope I shall do as well as Gerald!

REGIONAL GARDENS

1967 can be regarded as a milestone in the history of the National Botanic Gardens of South Africa because it was in this year that we first enlarged our borders outside the Cape Province.

Harrismith: Two new Gardens, both in the Orange Free State, were started. The first was at Harrismith. This is known as the Drakensberg and Eastern Free State Botanic Garden. Here we shall concentrate on the cultivation and display of the natural flora of the region. Contrary to general belief the eastern areas of the Free State and the Drakensberg support an amazing assemblage of wild flowers. It will be our endeavour to grow all these in our new Garden.

Mr. Alfred van der Zeyde is the Curator of this Garden and he will be very happy to welcome any members of the Society.

The Garden is situated just outside Harrismith on the Natal side. Do call in.

Bloemfontein: The other newly established Garden in the Orange Free State is the Free State Botanic Garden about 5½ miles N.W. of Bloemfontein. Here Gerald Feinauer is collecting plants from all parts of the Province for cultivation in the new Garden. Help from members in the Free State will be much appreciated. Please let us have bulbs, cuttings and seeds and do call in to see Gerald too.

Nelspruit: There are great hopes that a Lowveld Botanic Garden will be started here. The site offered by the Municipality of Nelspruit and by Messrs. H. Hall & Son straddles the Crocodile River at Nelspruit. It is a magnificent area. Apart from its beautiful setting on both sides of the river and with no less than three

uitstekende manier waarop die reservaat sonder 'n resident-kurator in stand gehou is.

Mnr. Frank Stayner, Kurator van die Karoo-tuin, Worcester, was vanaf Maart tot September 1966, met siekeverlof afwesig. Ek kan met genoeë verklaar dat hy nou heeltemal herstel het. Gedurende sy afwesigheid het wyle mnr. Littlewood toesig gehad oor die Karootuin en hy het hom uitmuntend van die taak gekwyt.

Vroulike tuinboukundige te Kirstenbosch: Gedurende die vroeë dertigerjare het Kirstenbosch 'n aantal vroulike tuiniers in diens gehad. Sedertdien het hoofsaaklik mans op die tuinbou toegelê! Ek kan met genoeë meld dat die Departement die aanstelling goedgekeur het van mej. Theodora K. Green, wat op 1 November 1967 by ons begin het. Mej. Green besit die graad B.Sc. in Plantkunde en 'n Diploma in Tuinboukunde. Sy het baie jare ondervinding in tuinboukunde en sal uiteindelik toesig hê oor die Saadafdeling.

Edward Muspratt Solly-beurs. Vir 1967 is hierdie beurs toegeken aan mej. Suzelle Ferreira, B.Sc., 'n gegradueerde van die Universiteit van die O.V.S. Met die samewerking van prof. P. G. Jordaan, is reëlings getref dat mej. Ferreira vir die honneurs-graad B.Sc., aan die Universiteit Stellenbosch kon studeer. Sy het slegs twee dae per week op Stellenbosch deurgebring terwyl al haar buiteprojekte by Kirstenbosch onderneem is.

OLIVE MAY PORTER-BRUG, BETTYSBAAI

Op 14 Januarie 1967 is ons beslis vereer om mev. O. M. Porter self as ons hoofgas te hê tydens die amptelike opening van die voetgangerbrug wat na haar heet. Mev. Porter het die plegtigheid waargeneem en in 'n mooi toespraak die brug vir voetgangerverkeer oop verklaar. Dit was 'n baie gelukkige geleentheid en is deur etlike vriende van die Porter-gesin en die Vereniging bygewoon. Ons is baie dank aan die Portergesin vir hul nimmerfalende belangstelling en ondersteuning verskuldig.

TOER VAN EUROPA EN DIE V.K.

Ek is deur 'n plaaslike reisagentskap versoek om 'n toer van Suid-Afrika na sommige van die bekendste tuine in Europa en die Verenigde Koninkryk in April-Mei 1968, te lei. Gedurende 1967 is 'n soortgelyke toer gereël en dit was uiters geslaag. Mnr. Gerald Feinauer wat op daardie tydstip Senior Tuinboukundige op Kirstenbosch was en wat nou die eerste Kurator van die Vrystaatse Botaniese Tuin te Bloemfontein is, was toe die leier. Ek vertrou dat ek net so veel sukses as Gerald sal behaal!

STREEKTUINE

Die jaar 1967 kan as 'n mylpaal in die geskiedenis van die Nasionale Botaniese Tuine van Suid-Afrika beskou word omdat dit in hierdie jaar was dat ons eerste ons grense buite die Kaapprovinsie uitgebrei het.

Harrismith. Daar is met twee nuwe Tuine, albei in die Oranje-Vrystaat begin. Die eerste was te Harrismith. Dit staan bekend as die Botaniese Tuin Drakensberg en Oos-Vrystaat. Hier sal ons ons toespits waterfalls, it already has a fine assemblage of trees and shrubs typical of the Lowveld region of the eastern Transvaal.

When this Garden is established visitors will be able to see the plants typical of the Kruger National Park, which is only a few miles away, without any fear of wild animals!

I regret that I am unable to say when operations will commence. The Municipality of Nelspruit has been most co-operative but funds from elsewhere are still being sought. As soon as the Government and Provincial authorities vote money for this project we shall be able to start.

Natal: Negotiations are at present taking place in connection with the possible establishment of at least one, and perhaps two, Regional Gardens in Natal. Perhaps I shall have some more news about this in the next issue of the Journal.

KOGELBERG FOREST RESERVE

The Kogelberg Reserve near Betty's Bay in the south western Cape is perhaps the richest botanical area in South Africa if not in the whole world and it contains a large number of endemic species.

To our horror and dismay we learn that there is the possibility of a new national highway ploughing its way right through the middle. We can just imagine what destruction this would cause.

The following was written to the Hon. the Minister of Transport in this respect:

"You will probably remember that while you were Minister of Forestry an area of approximately 18,000 morgen known as the Kogelberg Forest Reserve in the South Western Cape was set aside for the protection of the natural flora and fauna. I was privileged to be a member of the reconnaissance party which in 1952 undertook an inspection of the entire area and made proposals regarding its management and administration.

"It is probable that this Reserve contains a greater concentration of indigenous species than any other in South Africa, or for that matter, anywhere in the world. The Department of Forestry exercises extremely strict control over entry into the Reserve, which may be visited only with special permission. The reasons for this restriction are obvious.

"Recent reports in the press indicate that plans are being made to construct a new National Road from Cape Town and that this road will probably pass through the Reserve. The announcement has caused grave concern among nature lovers generally, and amongst botanists in particular.

"The proposed road would disfigure the Reserve and because of the extremely localised distribution of many of the species, it is possible that some might be completely exterminated. It is a common observation that alien plants, particularly pines and wattles tend to invade the natural vegetation from roadways and

op die kweek en vertoning van die natuurlike plantegroei van die streek. In teenstelling met die algemene opvatting word 'n verbasende versameling veldblomme in die oostelike gebiede van die Vrystaat en die Drakensberg aangetref. Ons sal poog om hulle almal in ons nuwe tuin te kweek.

Mnr. Alfred van der Zeyde is die Kurator van hierdie tuin en hy sal met genoeë enige lede van die Vereniging verwelkom.

Die tuin is net buitekant Harrismith aan die Natalse kant geleë. Lê gerus daar besoek af.

Bloemfontein. Die ander pas gestigte tuin in die Oranje-Vrystaat is die Vrystaatse Botaniese tuin ongeveer 5½ myl noordwes van Bloemfontein. Hier versamel Gerald Feinauer plante uit alle dele van die Provinsie om in die nuwe tuin te kweek. Hulp deur lede in die Vrystaat sal baie waardeer word. Skenk ons asb. bolle, steggies en saad en lê tog besoek af by Gerald.

Nelspruit. Groot vertroue bestaan dat 'n Laeveldse Botaniese tuin hier aangelê sal word. Die terrein aangebied deur die Munisipaliteit van Neslpruit en mnre. H. Hall en seun oorvurk die Krokodilrivier by Nelspruit. Dit is 'n pragitge gebied. Afgesien van sy fraai ligging aan albei kante van die rivier en met nie minder as drie watervalle nie, bestaan daar reeds 'n mooi versameling van bome en struike tipies van die Laeveldse streek van Oos-Transvaal.

Wanneer hierdie tuin aangelê is, sal besoekers in staat wees om plante te sien wat tipies van die Nasionale Kruger-wildtuin is wat slegs 'n paar myl daarvandaan is, sonder dat hulle wilde diere hoef te vrees!

Dit spyt my maar ek is nie in staat om te sê wanneer daar met bedrywighede begin sal word nie. Die Munisipaliteit Nelspruit was uiters behulpsaam maar fondse van elders word nog verlang. Sodra die Regering en die Provinsiale owerhede die geld vir hierdie projek toestaan, sal ons in staat wees om te begin.

Natal. Onderhandelings vind tans plaas in verband met die moontlike aanleg van minstens een en miskien twee, streektuine in Natal. Bes moontlik sal ek meer nuus hieromtrent in die volgende uitgawe van die Tydskrif hê.

BOSRESERVAAT KOGELBERG

Die Kogelberg-reservaat naby Bettysbaai in Suidwes-Kaapland is miskien die gebied met die grootste verskeidenheid van plantegroei in Suid-Afrika, indien nie in die hele wêreld nie en dit bevat 'n groot aantal inheemse plantsoorte.

Met ontsetting en ontsteltenis verneem ons dat daar die moontlikheid bestaan dat 'n nuwe nasionale grootpad sy pad dwarsdeur die middel daarvan gaan ploeg. Ons kan ons voorstel watter vernietiging dit sal veroorsaak.

Die volgende brief is aan Sy Edele die Minister van Vervoer in hierdie opsig geskryf:—

„U sal waarskynlik onthou dat terwyl u Minister van Bosbou was, 'n gebied van ongeveer 18,000 morg bekend as die Bosreservaat Kogelberg in Suidwesof course many fires originate on the roadsides. Furthermore, unauthorised entry by the public into the Reserve would become comparatively easy.

"We appeal to you in real earnest to persuade your Department to find an alternative route and so leave the unique Kogelberg Reserve intact.

"A copy of this letter is being sent to the Minister of Forestry.

"I look forward to receiving your assurance of co-operation."

I sincerely trust that members of the Botanical Society of South Africa will add their support.

THE NATIONAL BOTANIC GARDENS OF SOUTH AFRICA AS A STATE-AIDED INSTITUTION

The National Botanic Gardens of South Africa is a State-aided Institution and as such derives its income partly from the State, the rest coming from provincial and local authorities, the Botanical Society of South Africa and from gifts and bequests.

It operates under the general control of a Government Department. For many years the Department concerned was Education, Arts and Science but in April 1967 we were transferred to the care of the Department of Agricultural Technical Services.

BOTANICAL SOCIETY OUTINGS

Our hard-working Secretary, Miss Jean Harvey, always anxious to give service and to please our members, conceived the idea of hiring public transport for our outings. The response was excellent and three buses each holding 50 people were used for our outing to the Karoo Garden at Worcester and three were used for our visit to the Harold Porter Botanic Reserve at Betty's Bay. In addition several members and friends used their own transport. A popular feature was the provision of a guide in each bus to give information on the vegetation en route.

KIRSTENBOSCH HORTICULTURAL SCHOLARSHIP

A most generous member of our Society has anonymously donated a handsome amount of money the interest from which is to be used for a Horticultural Scholarship to be awarded to a young qualified horitculturist to work at Kirstenbosch for a year. We are extremely grateful to our kind donor.

The first award was made to Mr. Douglas McMurtry of the Johannesburg Parks and Gardens Department. During his time with us he worked in all the various sections of the Gardens and, we hope, gained valuable experience and knowledge about the native plants of South Africa.

The 1968 Scholarship has been awared to Mr. Peter Hattingh of the Durban Parks & Gardens Department.

PROFESSIONAL SCIENTISTS JOINT COUNCIL

In South Africa there is a large number of scientific and semi-scientific societies of which ours is possibly the

Kaapland vir die beskerming van die natuurlike plantegroei en dierelewe opsy gesit is. Dit was my voorreg om lid te wees van die verkenningsgeselskap wat in 1952 'n ondersoek van die hele gebied onderneem en voorstelle in verband met die bestuur en administrasie daarvan gedoen het.

Dis waarskynlik dat hierdie Reservaat 'n groter konsentrasie van inheemse plante as enige ander in Suid-Afrika of, wat dit betref, elders in die wêreld bevat. Die Departement Bosbou oefen uiters streng beheer uit oor toegang tot die Reservaat wat slegs met spesiale toestemming besoek kan word. Die redes vir hierdie beperking is voor die hand liggend.

Onlangse berigte in die pers dui daarop dat planne beraam word om 'n nuwe nasionale pad vanaf Kaapstad aan te lê en dat hierdie pad waarskynlik deur die Reservaat sal loop. Die aankondiging het ernstige bedenkinge by natuurliefhebbers in die algemeen en plantkundiges in die besonder laat ontstaan.

Die voorgestelde pad sal die Reservaat skend en omrede die uiters beperkte verspreiding van baie van die plantsoorte is dit moontlik dat sommige daarvan heeltemal uitgeroei mag word. Dit is 'n algemene verskynsel dat vreemde plante, veral pynbome en wattelbome daartoe neig om inbreuk te maak op die natuurlike plantegroei vanaf paaie en natuurlik ontstaan baie brande langs paaie. Bowendien sou ongemagtigde toegang deur die publiek tot die Reservaat betreklik maklik word.

Ons doen in alle erns 'n beroep op u om u Departement te oorreed om 'n ander roete te vind en aldus die unieke Kogelberg-reservaat ongeskonde te laat.

'n Afskrif van hierdie brief word aan die Minister van Bosbou gerig.

Ek sien daarna uit om u versekering van samewerking te ontvang."

Ek vertrou opreg dat lede van die Botaniese Vereniging van Suid-Afrika hul steun sal toevoeg.

DIE NASIONALE BOTANIESE TUINE VAN SUID-AFRIKA AS 'N STAATSONDERSTEUNDE INSTELLING:

Die Nasionale Botaniese Tuine van Suid-Afrika is 'n staatsondersteunde instelling en as sulks verkry hy sy inkomste gedeeltelik van die Staat, en die res is afkomstig van provinsiale en plaaslike owerhede, die Botaniese Vereniging van Suid-Afrika en uit geskenke en bemakings.

Sy bedrywighede staan onder die algemene beheer van 'n Staatsdepartement. Jare lank was die betrokke Departement die Departement van Onderwys, Kuns en Wetenskap maar in April 1967 is ons onder die sorg van die Departement Landboutegniese Dienste geplaas.

UITSTAPPIES VAN DIE BOTANIESE VERENIGING:

Ons hardwerkende Sekretaresse, mej. Jean Harvey wat altyd gretig is om diens te lewer en ons lede te behaag, het op die gedagte gekom om openbare vervoer vir ons uitstappies te huur. Die reaksie was uitstekend en drie busse wat elkeen 50 mense kan strongest numerically speaking. It has been suggested that these societies should form a joint council to act as a consultative body on any matter of common interest.

Our Society has been represented on the ad hoc committee which is discussing the formation of the joint Council.

INFORMATION OFFICER/GUIDE LECTURER

For many years Kirstenbosch has felt the real need for someone to take care of our public relations activities. Visitors come to us from all parts of the world. We enjoy seeing them but all too often in the past we have not had as much time to devote to them as we might wish.

Now we are extremely fortunate in having Mrs. Enid du Plessis as our first Information Officer/Guide Lecturer. She is particularly well qualified for the work as she holds an M.Sc. degree in Botany and has had school and University teaching experience. She started with us on 1 May 1967 and has already been responsible for a little pamphlet on "Spring in Kirstenbosch" and a second publication on "South African Gymnosperms" is at present with the publishers. This includes the Cycads (*Encephalartos*), Yellowwoods (*Podocarpus*) and the native Cedars (*Widdringtonia*). With the help of this little booklet one should be able to identify Gymnosperms anywhere in South Africa.

Guides will later be published for other groups of plants at Kirstenbosch and at the various Regional Gardens. Subjects we have in mind are Proteas, Heaths (*Erica*), Flowering Trees and Shrubs, Bulbous Plants, Climbers and Annuals.

JOURNAL OF SOUTH AFRICAN BOTANY

The 1967 Journal of S.A. Botany is dedicated to Dr. H. M. L. Bolus in recognition of her services to Botany in this country. Dr. Bolus celebrated her 90th birthday in 1967 and it is wonderful to report that at this age she still contributes regularly to the Journal. Her articles are submitted to the printers in her own beautiful clear handwriting.

So many articles are sent in for consideration for the Journal that it has been resolved to publish 6 parts per Volume each year instead of four as heretofore.

DONATION OF DISA COLLECTION

Mr. K. C. Johnson donated his very fine collection of *Disa uniflora* and *Disa uniflora/racemosa* hybrids to Kirstenbosch. The hybrids flowered profusely over a long period and research is being carried out on these fine plants. Our grateful thanks are due to Mr. Johnson for this fine gesture.

GLASSROOMS TO BE PROVIDED BY THE CAPE PROVINCIAL ADMINISTRATION

During our Jubilee Celebrations in 1963, the Administration agreed to erect new classrooms at Kirstenbosch. Plans have already been passed but due to the

vervoer, is gebruik vir ons uitstappie na die Karootuin op Worcester en drie is gebruik vir ons besoek aan die Botaniese Reservaat Harold Porter te Bettysbaai. Bowendien het etlike lede en vriende hul eie vervoer gebruik. 'n Gewilde kenmerk was die voorsiening van 'n gids in elke bus wat onderweg inligting oor die plantegroei verstrek het.

TUINBOUKUNDEBEURS VAN KIRSTENBOSCH

'n Uiters edelmoedige lid van ons Vereniging het anoniem 'n mooi bedrag geskenk waarvan die rente gebruik sal word vir 'n Tuinboukundebeurs wat toegeken sal word aan 'n jong gekwalifiseerde tuinboukundige wat 'n jaar lank by Kirstenbosch sal werk. Ons is baie dank verskuldig aan ons vriendelike skenker.

Die eerste toekenning is aan mnr. Douglas McMurry van die Johannesburgse Parke- en Tuinedepartement gedoen. Gedurende die tyd wat hy by ons deurgebring het, het hy in al die verskillende afdelings van die Tuine gewerk en ons vertrou dat hy waardevolle ondervinding en kennis van die inheemse plante van Suid-Afrika opgedoen het.

Die 1968-beurs is aan mnr. Peter Hattingh van die Durbanse Parke- en Tuinedepartement toegeken.

GESAMENTLIKE RAAD VAN BEROEPSWETENSKAPLIKES

In Suid-Afrika bestaan daar 'n groot aantal wetenskaplike en halfwetenskaplike verenigings waarvan dié van ons moontlik die sterkste is wat getalle betref. Daar is aan die hand gedoen dat hierdie verenigings 'n gesamentlike raad vorm om op te tree as 'n raadgewende liggaam oor enige aangeleentheid van gemeenskaplike belang.

Ons Vereniging is op die *ad hoc*-komitee verteenwoordig, wat die stigting van die gesamentlike Raad bespreek.

INLIGTINGSBEAMPTE/GIDS LEKTRIESE

Jare lank reeds het Kirstenbosch die werklike behoefte aan iemand gevoel om ons openbare inligtingsbedrywighede te behartig. Besoekers kom na ons uit alle dele van die wêreld. Ons is bly om hulle te sien, maar te dikwels in die verlede het ons nie die tyd gehad om aan hulle te bestee wat ons sou wou doen nie.

Nou het ons dit uiters gelukkig getref deur mev. Enid du Plessis as ons eerste Inligtingsbeampte/Gids-Lektrise te hê. Sy is besonder geskik vir die werk aangesien sy die graad M.Sc. in Plantkunde besit en ondervinding het van onderrig gee op skool en aan die universiteit. Sy het op 1 Mei 1967 by ons begin en was reeds verantwoordelik vir 'n pamfletjie oor ,,Lengte in Kirstenbosch" en 'n tweede publikasie oor ,,Suid-Afrikaanse Gimnosperms" is tans in die hande van die uitgewers. Dit behels die Sikadeë (*Encephalartos*), Geelhoutsoorte (*Podocarpus*) en die inheemse Sederbome (*Widdringtonia*). Met behulp van hierdie boekie behoort mens in staat te wees om Gimnosperms ep enige plek in Suid-Afrika uit te ken.

Handboeke sal later vir ander groepe plante by Kirstenbosch en die verskillende Streektuine ge-

Government's credit restrictions, it might take some considerable time to commence construction of this service. Mr. J. C. Heunis, M.E.C., who represents the Province on the Board of Trustees of this Institution, has suggested that it might be feasible to investigate the possibility of erecting a good quality prefabricated building. Mr. Heunis' interest in the Institution is sincerely appreciated and it is hoped that we will be able to accommodate at least four classes, instead of the present two, in the near future.

INTERTELEPHONE TELECOMMUNICATION SYSTEM

The installation of this system at Kirstenbosch has proved a blessing and a great time-saver. The main offices are now in direct communication not only with each other, but also with the Senior Horticulturist in the gardens, the Herbarium and the Botanical Society office.

PORTION OF THE ROOF OF THE OLD CAPE TOWN RAILWAY STATION

During 1965 the Minister of Transport donated a portion of the roof of the gold Cape Town Railway Station for re-erection as a giant glasshouse at Kirstenbosch. After prolonged discussions with the Department of Public Works, it has been decided that the shape is not suitable for the intended purpose and that the ultimate cost will be more than that of a conventional building. The Trustees have therefore decided not to avail themselves of the Minister's kind offer. The need for a glasshouse of this size is in no way diminished by this decision and a suitable structure is included in the future plan of major works for the Institution.

J. W. MATHEWS TROPHY

The essay subjects for the competition in 1967 were all about South African trees and some very good entries were received. The winner of the Trophy was Vicky Starke of The Rhenish Girls' High School in Stellenbosch with a well-planned and illustrated essay. The runner-up, to whom the J. Sauer van Pletsen prize was awarded, was Gail Rabbets of the Girls' High School, Pietermaritzburg.

The Kirstenbosch Conservation Trophy for Primary school children was won by Ann Dichmont of Rustenburg Junior School while the second prize was awarded to Shirley Carter of the Fish Hoek Primary School.

For the first time since the inception of this annual competition amongst school children, a cup was presented by the Trustees of the National Botanic Garden for competition amongst Coloured scholars. A poster advocating the preservation of our natural flora was called for and some very good entries were received. The first prize was shared by Alexis Smith (16 years) of the Children's Art Centre and Kevin Reid (9 years) of Boundary Road Primary School, Bonteheuwel. The cup will be housed for 6 months of 1968 in each of these schools.

publiseer word. Onderwerpe wat ons in gedagte het is Proteas, Heide (*Erica*), Blombome en -struike, Bolagtige Plante, Klimplante en Eenjarige Plante.

TYDSKRIF VAN SUID-AFRIKAANSE PLANTKUNDE

Die Tydskrif van S.A. Plantkunde vir 1967 is aan dr. H. M. L. Bolus opgedra ter erkenning van haar dienste aan die Plantkunde in Suid-Afrika. Dr. Bolus het in 1967 haar 90ste verjaardag gevier en dit is wonderbaarlik om te kan meld dat op hierdie ouderdom sy nog steeds gereeld bydraes tot die Tydskrif lewer. Haar artikels word in haar eie pragtige, duidelike handskrif aan die drukkers besorg.

So baie artikels word vir oorweging vir die Tydskrif ingestuur dat daar besluit is om elke jaar 6 dele per Bundel pleks van vier soos tot dusver, te publiseer.

SKENKING VAN DISA-VERSAMELING

Mnr. K. C. Johnson het sy baie mooi versameling *Disa uniflora* en *Disa uniflora/racemosa*-hibrides aan Kirstenbosch geskenk. Die hibrides het gedurende 'n lang tydperk oorvloediglik geblom en navorsing word op hierdie mooi plante gedoen. Ons innige dank gaan na mnr. Johnson uit vir hierdie pragtige gebaar.

KLASKAMERS WAT DEUR DIE KAAPLANDSE PROVINSIALE ADMINISTRASIE VERSKAF SAL WORD

Gedurende ons Jubileumvierings in 1963, het die Administrasie ingestem om nuwe klaskamers te Kirstenbosch op te rig. Planne is reeds goedgekeur maar as gevolg van die Regering se krediet-beperkings mag dit 'n hele tyd duur voordat daar met die bouwerk i.v.m. hierdie diens begin word. Mnr. J. C. Heunis, L.U.K. wat die Provinsie op die Kuratorium van hierdie Vereniging verteenwoordig, het aan die hand gedoen dat dit prakties mag wees om die moontlikheid te ondersoek om 'n opslaangebou van goeie gehalte op te rig. Mnr. Heunis se belangstelling in die Vereniging word opreg waardeer en daar word vertrou dat ons in die nabye toekoms vir minstens vier klasse—pleks van die huidige twee—akkommodasie sal hê.

INTERTELEFOON-TELEKOMMUNIKASIESTELSEL

Die installering van hierdie stelsel op Kirstenbosch het geblyk 'n seën en 'n groot tydbespaarder te wees. Die hoofkantore is nou in regstreekse verbinding nie alleen met mekaar nie maar ook met die Senior Tuinboukundiges in die tuine, die herbarium en die kantoor van die Botaniese Vereniging.

DEEL VAN DIE DAK VAN DIE OU KAAPSTADSE SPOORWEGSTASIE

Gedurende 1965 het die Minister van Vervoer 'n deel van die dak van die ou Kaapstadse Spoorwegstasie geskenk vir heroprigting as 'n reuse-broeikas by Kirstenbosch. Na langdurige besprekings met die Departement van Openbare Werke is daar besluit dat die fatsoen nie vir die beoogde doel geskik is nie en dat die uiteindelike koste meer sal wees as dié van 'n konvensionele gebou. Die Kuratore het dus besluit om hulle die vriendelike aanbod van die Minister nie te laat welgeval nie. Die behoefte aan 'n broeikas

It is hoped that as this competition becomes better known we shall have more and more entries pouring in from the Coloured schools.

BOTANICAL SOCIETY'S GRANT

The Botanical Society's grant to the National Botanic Gardens of South Africa for this year is an all-time record of R10,420. We very much appreciate the continued interest of the members of the Society and would like to pay special tribute to the Secretary, Miss Harvey, and her staff for the hard work they have done so willingly.

LECTURES BY VISITING SCIENTISTS

Although Kirstenbosch is situated near the southern tip of Africa, many botanists and other scientists from all parts of the world come to visit us. To give members of my staff the opportunity to meet these people and to discuss matters of mutual interest, lectures were arranged, sometimes with a show of colour slides, and these proved most instructive and enjoyable.

Professor H. P. van der Schijff of the Botany Department of the University of Pretoria visited the Western Cape with a party of students during March, 1967. This party was entertained at Kirstenbosch, visited the Karoo Garden at Worcester, the Harold Porter Botanic Reserve at Betty's Bay and was taken to the Kogelberg Reserve by the Assistant Director, Mr. Johan Grobler, who knows this area particularly well.

MR. ROY C. LITTLEWOOD

A second grievous loss was suffered on 22nd October, 1967 when Mr. Roy Littlewood, Senior Horticulturist at the Karoo Garden, Worcester, collapsed and died.

Mr. Littlewood came to us from England in 1957. He was well known for his enthusiastic interest in, and knowledge of, the succulent plants of South Africa. During his time at the Karoo Garden he travelled widely, especially to the more arid parts of the country. During his official travels he collected several species of succulent new to science, and some of them have been named after him. It will be extremely difficult to fill his post.

BOOK REVIEW

ANOTHER BOOK BY OUR PRESIDENT

Dudley D'Ewes, President of the Botanical Society of South Africa and Chairman of the Board of Trustees of the National Botanic Gardens of South Africa has written another book which should be of interest to all who enjoy nature. The title is "Wayward Naturlist in Southern Africa". It is a series of articles based on the author's personal observations in many parts of Southern Africa, but very largely in his own garden. He deals, in chatty style, with many things which you and I could also see in our own gardens, but I suppose most of us do not take the trouble to look and listen.

van hierdie omvang word geensins verminder deur hierdie besluit nie en 'n geskikte struktuur word by die toekomstige plan van groot werke vir die Inrigting ingesluit.

J. W. MATHEWS-TROFEE

Die onderwerpe vir opstelle vir die wedstryd in 1967 het almal oor Suid-Afrikaanse bome gehandel en 'n aantal baie goeie inskrywings is ontvang. Die wenster van die Trofee was Vicky Starke van die Hoër Meisieskool Rhenish op Stellenbosch, met 'n goed beplande en geïllustreerde opstel. Nommer twee, aan wie die J. Sauer van Pletsen-prys toegeken is, was Gail Rabbets van die Hoër Meisieskool Pietermaritzburg.

Die Bewaringstrofee van Kirstenbosch vir Laerskoolkinders is deur Ann Dichmont van die Laerskool Rustenburg verower, terwyl die tweede prys aan Shirley Carter van die Laerskool Vishoek toegeken is.

Vir die eerste maal sedert die instelling van hierdie jaarlikse wedstryd onder skoolkinders, is 'n beker geskenk deur die Kuratore van die Nasionale Botaniese Tuin vir mededinging onder Kleurlingleerlinge. Daar is om 'n plakkaat wat die bewaring van ons natuurlike plantegroei voorstaan, gevra en 'n aantal baie goeie inskrywings is ontvang. Die eerste prys is gedeel deur Alexis Smith (16 jaar) van die Kinder-kunssentrum en Kevin Reid (9 jaar) van die Laerskool Boundaryweg, Bonteheuwel. Die beker sal 6 maande lank in 1968, in elkeen van hierdie skole gehou word.

Daar word vertrou dat na mate hierdie wedstryd beter bekend raak, daar meer en meer inskrywings van die Kleurlingskole ontvang sal word.

BOTANIESE VERENIGING SE SKENKING

Die Botaniese vereniging se skenking aan die Nasionale Botaniese Tuine van Suid-Afrika vir vanjaar staan op die ongeëwenaarde rekordsyfer van R10,420. Ons waardeer ten seerste die voortdurende belangstelling van die lede van die Vereniging en wil graag spesiale hulde bring aan die Sekretaresse, mej. Harvey en haar personeel, vir die veeleisende taak wat hulle so gewilliglik laat welgeval het.

LESINGS DEUR BESOEKENDE WETENSKAPLIKES

Alhoewel Kirstenbosch naby die suidelike punt van Afrika geleë is, kom Plantkundiges en ander wetenskaplikes uit alle dele van die wêreld om ons te besoek. Om aan lede van my personeel die geleentheid te gee om hierdie mense te ontmoet en sake van onderlinge belang te bespreek, is lesings gereël, soms gepaard met 'n vertoning van kleurskyfies, en hulle het uiters leersaam en genotvol geblyk.

Professor H. P. van der Schijff van die Departement Plantkunde van die Universiteit Pretoria het Wes-Kaapland gedurende Maart 1967 met 'n geselskap studente besoek. Hierdie geselskap is by Kirstenbosch onthaal; hulle het die Karootuin op Worcester en die Botaniese-reservaat Harold Porter te Bettysbaai besoek en is deur mnr. Johan Grobler, die Assistent-direkteur na die Kogelberg-reservaat geneem; hy ken hierdie streek besonder goed.

Dudley D'Ewes deals with a large number of subjects including beetles, birds, butterflies, cats, chameleons, earthworms, frogs, geckoes, lizards, moths, skinks, spiders, slugs, snails and tortoises. And more!

The illustrations from the author's own photographs prove that Dudley D'Ewes is not only an excellent writer but also a first-class photographer.

The book is published by Howard Timmins and the price is R3.50.

MNR. ROY C. LITTLEWOOD

'n Tweede smartlike verlies is op 22 Oktober 1967 gely toe mnr. Roy Littlewood, Senior Tuinboukundige by die Karootuin, Worcester, inmekaargesak en gesterf het.

Mnr. Littlewood het in 1957 uit Engeland na ons gekom. Hy was welbekend vir sy geesdriftige belangstelling in en kennis van die vlesige plante van Suid-Afrika. Gedurende sy tyd by die Karootuin het hy baie gereis, veral na die droër dele van ons land. Gedurende sy amptelike reise het hy verskeie soorte vlesige plante onbekend aan die wetenskap versamel en sommige daarvan is na hom genoem. Dit sal uiters moeilik gaan om sy pos te vul.

BOEKBESPREKING

NOG 'N BOEK DEUR ONS PRESIDENT

Dudley D'Ewes, President van die Botaniese Vereniging van Suid-Afrika en Voorsitter van die Kuratorium van die Nasionale Botaniese Tuine van Suid-Afrika het nog 'n boek geskryf wat almal behoort te interesseer wat die natuur geniet. Die titel is „Wayward Naturalist in Southern Africa". Dit is 'n reeks artikels gegrond op die skrywer se persoonlike waarnemings in baie dele van Suidelike Afrika, maar hoofsaaklik in sy eie tuin. Hy behandel op spraaksame wyse die baie dinge wat ek en u ook in ons eie tuine sal kan waarneem maar ek veronderstel die meeste van ons doen nie die moeite om te kyk en te luister nie.

Dudley D'Ewes behandel 'n groot reeks onderwerpe insluitend kewers, voëls, skoenlappers, katte, verkleurmannetjies, erdwurms, paddas, boomgeitjies, akkedisse, motte. stink-akkedisse, spinnekoppe, naakslakke, slakke en skilpaaie. En meer!

Die illustrasies uit die skrywer se eie foto's bewys dat Dudley D'Ewes nie alleen 'n begaafde skrywer nie maar ook 'n puik fotograaf is.

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Disa uniflora—A Method of Cultivation and its Hybridisation with D. racemosa

K. C. Johnson
Newlands, Cape

Being as it surely is the most beautiful and spectacular and certainly the most renowned of all the wild flowers of South Africa it is strange how little is known about the life cycle and genetics of this plant, and what small and varied success has attended the many attempts made to cultivate it.

As recently as 1869 McGibbon reported that the depression on top of Table Mountain, which has since become the Woodhead Reservoir, was like a great scarlet blanket with the myriads of Disa growing there and the bulbs were lifted in their thousands and sold in Cape Town for as little as 1/3d a hundred. In the short space of 100 years this wonderful flower has almost disappeared from the nearby haunts where it once flowered so prolifically and today you must climb to the higher and remoter areas of the Cape maritime mountains where, thanks to the relative inaccessability of its habitat, and the stringent measures taken for its preservation, it still flourishes in quantities which will ensure its survival, probably for all time.

It is both a pressing need and at the same time a great challenge to horticultural ingenuity to evolve simple methods of cultivation and so make possible the propagation of this superb indigenous orchid on the widest possible scale and in 1957 with, I hasten to add, no horticultural or botanical skill whatsoever, I first began to attack this problem.

Of course over the years a great many others have made similar attempts and as long ago as 1907 not only was *D. uniflora* successfully grown and flowered in England but—and this fact only became known quite recently—it was also hybridised with *D. racemosa*. For many years past Disas have been grown under intensely artificial conditions involving such aids as ultra violet lights at both Gothenborg and Hamburg, and some years ago a few plants were grown for a year or two at Kew but without any sustained success.

Here in South Africa *D. uniflora* has been grown successfully and on an increasingly large scale in the National Botanic Gardens at Kirstenbosch and by several private growers amongst whom special mention must be made of Mr. H. H. Meyer of the Department of Botany at Stellenbosch University.

But generally speaking success has been spasmodic and transitory. On so many occasions over the last few years I have been told "You ought to contact Mr. X, or Mrs. Y — they grow wonderful Disas", and on following up this information I have invariably received the depressing news that whilst they did once grow a few unfortunately they all died! And indeed for the first few years small encouragement derived from my own efforts.

I tried growing them in pots in a great variety of soils including of course all the many soils and soil/root complexes in which the Disa is commonly found in nature. I tried them in hanging baskets and in containers set along a wall down which water continually dripped, and I tried various forms of sprinkler and mist irrigation, sub-surface irrigation by capillarity and a host of hydroponic plant foods, fertilisers and fungicides. And in conjunction with many of these experiments I tried a number of trace elements such as iron, copper, zinc and manganese. Broadly speaking, though sometimes plants might survive, and even flower rather weakly, for a year or two the results were unimpressive and seemed not to be leading to any defined and successful method of cultivation.

But against this frustrating series of disappointments I constantly contemplated the significance of a fact which provided some stimulus for further effort. In its wild state *D. uniflora* grows and flourishes under greatly differing environmental conditions. It grows under the drips and waterfalls, sometimes in full sunlight and sometimes in almost full shade. It grows at 6,000 feet in the mist belt of the higher ranges and it grows, though certainly less frequently, right down to sea-level. In places I have found great colonies of Disa growing in the beds of streams where, throughout the winter months, they are frequently submerged under fast-flowing water and where they are not infrequently washed away only to lodge in some crevice far downstream where they grow quite happily, sometimes with their roots quite exposed to the air and water.

On the other hand you will often find them growing high up on the banks of streams in situations where the ground is generally fairly dry and where the only moisture they can get is from the damp air which, at all events during night-time, probably lies in the valley of the stream. You will often find them growing with their roots deeply embedded in heavy black soil but equally frequently you will find them in the clear white sands and micas of fast-flowing streams, and, perhaps most frequently of all, you will find them with their roots inextricably interwoven amonst the living and dead roots of the Palmiet and other reeds.

As an extreme example of this adaptability I found some years ago a superb specimen with four fully developed flowers growing amongst the round boulders, decaying seaweed and sandfleas, on the seaward side of the road bridge at Betty's Bay, and here at high tide it must often have been drenched with salt spray.

To an amateur researcher like myself all this suggested that basically *D. uniflora* is a very hardy plant and one which can adjust or adapt itself to a widely differing range of environmental conditions. The fact that it was so difficult to cultivate artificially suggested the probability that though it was so elastic in its basic requirements it did need for its survival some special circumstance or condition and quite possibly that could be a trace element. We do know from recent developments in agriculture how astonishingly some plants respond to minute traces of iron, manganese, cobalt or zinc and if we could isolate and determine just what the Disa needed in this respect its cultivation might become quite simple.

We do know of course that *D. uniflora* needs an acid, or at worst a neutral environment. Most commonly you will find it growing in areas where the surface and subsoil water has leached through Table Mountain sandstones and you will *never* find it growing on or near limestones or any other altered or metamorphic alkaline rocks.

Considered together all this suggested two things to me—and here I lay myself very much open to attack by the skilled botanist or horticulturist:

(*a*) *D. uniflora* is possibly a compromise plant. It can exist as a terrestrial orchid with its roots deeply embedded in some suitable soil but equally it can exist as a true parasite or epiphyte with its roots largely aerated and exposed, and deriving nourishment solely from the surrounding air or water.

By this I do not mean to suggest that there are two sub-species of *D. uniflora* with these two differing characteristics, for I have frequently lifted young plants which were growing terrestrially and having potted them up in Osmunda fibre they have continued to grow and develop quite happily right up to the flowering stage. (Incidentally I *do* think that there are two distinct forms of *D. uniflora* which should be recognised as separate sub-species. The usual form has of course a fairly narrow long pointed leaf, but, sometimes growing socially with this common form, there exists a form with a very much wider leaf—but this is another matter).

(*b*) A major problem in the artificial cultivation of Disa is its susceptibility to various forms of fungus infection and this, unless detected very early and suitably treated, can easily lead to the loss of an entire colony or collection of plants. But whilst this fungus trouble can by early diagnosis and vigilant treatment with a suitable fungicide be controlled, that doesn't explain how it is that, amongst the many thousands of plants that I have examined in their wild state, I have never once found a trace of fungus disease. We do of course, know that with the epiphyte orchids a form of benign fungus infection around the roots is an essential for their development and this may well be so with Disas grown semi-epiphytically. If this be so then the problem of course is to eradicate by means of a fungicide all malignant growths or moulds and yet preserve the essential benign ones.

Again, can it be that in nature some of the micro-plants or organisms, such as the many forms of lichen, have some therapeutical property that controls fungoid infestation? I certainly have not the necessary technical knowledge to develop this possibility though I do know that a whole range of medicinal anti-biotics such as Penicillin and *Aureomycin* were evolved from fungus moulds.

With this background to the problem as I saw it I set out, as briefly as I can, the results and my conclusions from my own limited and untutored line of research. It would be both time-consuming and in the end profitless to enlarge on the many early failures and I content myself with describing the one sequence and method of cultivation which finally emerged and which seems to offer the best chance of sustained success. I do not for a moment suggest that this is the only—nor indeed necessarily the best—method, but it is *a* method and one from which improved techniques can doubtless be evolved.

The basis of my ultimate approach to the problem is the simple fact that for many years a great range of orchids have been grown in such highly aerated and inert media as Osmunda fibre, pine bark, peanut shells and pulverised cork. Since there cannot be much feed potential in such materials these orchids are commonly fed with a great range of hydroponic mixtures or chemicals. Having accepted the probability that *Disa uniflora* can be similarly cultivated the immediate problem was to evolve a suitable mixture which would provide the necessary feeding for the growing plant.

I tried a great many feeds and fertilisers including of course many of the proprietary compounds such as LUSH, and at the same time I tried the effects of a number of trace elements such as iron, manganese, copper and zinc—none of which latter appeared to have any significant effect on the plants.

Eventually I evolved a mixture which, after three years experience with it, does seem to provide most of the essentials for the sustained growth of *D. uniflora* in fibre. This mixture consists of equal parts *by volume* of:

(*a*) Table Mountain sandstone crushed to a fine sand.
(*b*) Vermiculite—this to improve moisture retention in the pot.
(*c*) The fine dry compost which exists, often to a depth of several inches, underneath the common black wattle tree *Acacia mollissima*—this to provide an acid environment. In this dry compost there are many twigs and dried wattle leaves and these should be screened to leave a fine black powder.
(*d*) Finely sieved *dry and old* cow manure.

SEED PRODUCTION

D. uniflora can readily be pollinated either by means of a soft paint-brush or by removing the entire stamen from the donor or male flower and brushing the pollen head across the ovary of the flower to be fertilised. It is, of course, important that the ovary of the latter should be at a receptive state for fertilisation this being indicated by its stickiness to the touch. The fertilised flower withers very quickly after pollination and within 48 hours the ovary will turn first brown and then almost black.

Very large seed pods will form—often up to 2 in. long—and when the pod turns yellow and begins to burst open it should be encased in fine muslin to retain the very fine seed. If the pods are removed and allowed to dry off the plant at this stage there is a tendency for them to soften and rot and the resulting seed will not germinate readily.

As soon as the seed is dry, which is usually about three weeks after the pod first starts to split, it should be mixed with very fine sterilised sand and sown fairly thickly onto already prepared moss seed beds. The ideal seed bed consists of a shallow tray about 12 in. x 8 in. and 3 in. deep, in the bottom and around the sides of which are drilled numerous ¼ in. holes. These trays are filled to within an inch of the top with a fairly sandy soil or loam on top of which is pressed down a layer about 1 in. thick of living green sphagnum moss. I don't think that the exact character or composition of this subsoil is of any great significance so long as it is fairly porous (i.e. free from clay) and the moss will grow on it, *and keep green.*

These seed trays should stand in a larger container one side of which should be fitted with a miniature spillway at a level about 1 in. from the top of the seed tray. A small trickle of water should be allowed to run continuously through this outer container thus irrigating the moss by capillarity and, of course, also keeping the Disa seeds and seedlings damp.

If this continuous trickle of water cannot be arranged then a sufficient volume of new water should be poured into the container each day to ensure that the whole volume of water is virtually changed and, no matter which system is adopted, both the outside and bottom of the seed tray and the sides and bottom of the water container must be scrubbed clean every two weeks to remove any algae that may have formed.

Ambient temperature does not appear to play any significant part in influencing germination and the fresh seed will normally germinate three to four weeks after sowing. I have found it wise to cover the seed trays with a sheet of clear glass set about ¼ in. above the surface of the moss and though this appears to help germination I doubt whether it is at all essential.

PRICKING OUT THE SEEDLINGS

About 10–12 months after germination the small seedlings will be ½ in. to ¾ in. high and if germination has been as good as it usually is they will be so thickly sown that separation into single plants is neither practicable nor necessary. Small clumps of seedlings, a piece of moss about ½ in. to ¾ in. square, are cut out with a razor blade and these clumps, each concontaining maybe 4–12 small seedlings, are potted into small cups each of which has again many holes drilled to provide good water circulation. These cups are filled to within an inch of their top with a coarse quartz sand or fine gravel to which should be added about half its volume of any good loamy soil. The small clump of moss in which the seedlings are growing is placed on this subsoil in each cup and then the clump is packed all around with more green moss so as to fill the cup.

These cups—Coca-Cola plastic cups are excellent for this purpose—are placed in rows in a large shallow tray one side of which is fitted with a small spillway, set at a height in the side of the tray so that the water level is kept about 1 in. below the top of the cups and therefore at the *base* of the mossy top layer in which the seedlings are growing.

NOTE—WATER

At all stages of Disa cultivation only mountain, borehole or rain water *must* be used and water which has been chlorinated or otherwise chemically treated, as has all municipal water, is fatal to them.

Secondly, neither the seeds nor the very young seedlings must ever be watered from above. They must derive their moisture solely from such water as rises from capillarity from the water trough in which they stand. Once the young plants are potted up into fibre then overhead watering with either a fine hose or watering can is the correct, indeed the only, method.

FIRST POTTING UP

When the clumps of young seedlings are about 1½ in. high—this will probably be about 14 months after they have been pricked out into the cups—the important stage of initial potting up must take place. This is a critical phase when some loss must be expected and from now onwards great care and vigilance is necessary right up to the flowering stage.

The small clumps are lifted from the cups and sub-divided into groups of 2–3 plants. Generally speaking this is quite easy since the roots will still be mostly in the moss and only a few of the longer roots will have penetrated down to the subsoil under the moss. Even at this early stage a few of these small plants may have started to form a bulb which, in its initial stage of development will be just a white swelling on one of the roots. Whether a bulb has in fact started to form is of no great significance and not infrequently the plant can grow to a height of several inches before the first bulb starts to form and I have even seen plants without any bulb at all starting to send up their first flower stem.

These groups of 2–3 small plants are potted up into 4 in. pots. Damp and scrupulously washed and clean Osmunda fibre is placed to a depth of about 2 in. in the bottom of the pot and about a tablespoonful of the "food mixture" (described on page 0) is sprinkled onto the fibre which is then teased and turned about so that the food mixture adheres fairly evenly to the damp fibres. More layers of fibre are then placed in the pot, each layer being again sprinkled with the mixture and teased to induce even distribution, until the pot is filled to within an inch of the top. *Great care* must be taken *not to press the fibre down* into the pot and so compact it. It must be left loosely packed so as to provide maximum aeration.

Most of the moss adhering to them is now removed from around the roots of the 2–3 young plants and a small wisp of fibre is carefully wrapped around them and dusted with the mixture. The plants are then set into the pots and more fibre is packed around them to fill the pot to its rim and the whole is again given a final sprinkling of the mixture and then is watered with a *very fine can.* For this initial watering a very fine spray is important as otherwise much of the mixture will be washed down to the bottom of the pot. After one or two waterings it seems to adhere pretty tenaciously to the fibre and heavier watering will not dislodge it.

It is possible, though not conclusive, that placing a light layer of moss on top of the pot will help to retain moisture by preventing evaporation between waterings. Whilst the moss covering must certainly help in this regard it is possible that some of the fungus trouble which can soon be expected to appear derives from the moss. A layer of ¼ in. sandstone chips is equally effective and is probably to be preferred.

FUNGUS INEFCTION

This may be expected to manifest itself at any time after the young plants are first potted up into fibre. It first shows itself by the leaves turning a rather pale green soon after which they turn yellow and wilt. Sometimes blotches of dark brown will appear on the leaves and black patches will invariably appear right at the roots of the leaves where they leave the main stalk. The effective cure is to water the plants—not only the affected ones but *all of them*—with a solution of 2 tablespoonsful of Kaptan fungicide powder to a gallon of water. No further watering should be given for 24 hours after treatment to enable the fungicide to eradicate the mould before being washed off the plant. If a fine pressure spray is available this is much more effective than applying the Kaptan with a watering can for with the spray you can treat not only the top but also the underside of the leaves.

At this strength Kaptan appears to be quite harmless to Disa and it is a wise precaution from this stage onwards to treat them about every three weeks. It is far better to prevent fungus infestation than to cure it after it has started.

SLUGS

From now onwards slugs can be expected to be attracted by the permanent dampness of the pots and the lush green of the young Disa and a vigilant watch should be kept. On no account should those pink slug pellets which swell when wet be used since the arsenic in them burns the leaves of the Disas which then turn yellow and wilt. There are doubtless others on the market but one apparently harmless yet effective cure for slugs is a liquid which curiously enough is marketed under the brand name "Disa".

A watch should also be kept for red spider, greenfly and thrips, all of which can be controlled by very diluted sprays of Metasystox.

RE-POTTING

About 4–5 months after the initial potting-up into fibre re-potting becomes necessary and the clumps of 2–3 young plants are divided into single or at most two plants. During this, and indeed at all subsequent re-pottings, it is most important to trim off with a pair of scissors all roots which are already turning brown or yellow, leaving only the white young and active roots. Not only are dead roots, I think, a fruitful cause of fungus trouble but from this stage onwards the Disa plant will grow very fast and unless the old roots are periodically removed it will soon become pot-bound.

The Disa seems to thrive on frequent re-potting and if it is done carefully it doesn't set the plant back at all and if time permits the ideal would be to lift, trim off old roots and re-pot every 2–3 months right up to the time when the flower spike starts to evolve.

From now onwards it is just a question of watering twice a day, watching for fungus or insect pests, staking as the flower spike grows upwards, and *removing all dead or withered leaves.*

AFTER FLOWERING

Towards the end of the flowering stage small young new shoots will probably be seen emerging around the stem of the parent plant and about two months after flowering the whole growth should be turned out of the pot, washed clean and examined. This is a critical period.

Generally speaking, though not invariably and here there is certainly scope for more study, when the old plant dies down after flowering it will be found that its bulb has also shrunk and becomes wrinkled, yellow and perhaps also soft. In other words it is spent and, together with the old plant, it must be cut off and thrown away. Very probably small new bulbs will have started to form on the roots of the new young shoots but here again whether bulbs have started or not is, at this stage, of no great importance and the young plants, divided of course if there are several of them, should at once be potted up and they should flower the following year.

I have mentioned the need for further investigation as to what happens to the old plant after flowering. Two years ago instead of throwing them all away I cut the old bulbs off the spent plants in about fifty cases, potted them up in fibre, and in about 5% of these pots a few months later a fine young Disa plant emerged from the old bulb. The rest did nothing and the bulb finally rotted away and it does seem that in isolated cases the old bulb can re-generate and grow for a second flowering cycle.

NOTE—FIBRE

Osmunda fibre is both difficult to obtain locally and is very expensive (about 60 cents to

70 cents per lb). It is moreover extremely dirty and is contaminated with a great deal of dry grass, straw and other rubbish and before using for Disa cultivation it must be teased apart from its compressed state, washed and laboriously sorted. All this is very time-consuming.

Now it seems probable that there is little food value in the fibre and its sole function is to provide a semi-rigid and highly aerated structure in which the Disa roots can develop and to which they can anchor themselves while they derive nourishment from the mixture which is scattered throughout the fibre. If this be so then the fibre can presumably be washed and re-used, perhaps for a number of years until it finally softens and decays, and here again further research is necessary.

Anyway, 2–3 years ago I got tired with the tedious process of cleaning and sorting Osmunda fibre—and also tired of the cost of the stuff—and I began experimenting with the masses of fibre which grows between the leaf roots of that palm which flourishes in so many Cape gardens (*Phoenix canariensis*). After the admittedly short experience of two flowering seasons this palm fibre seems to be just as good as Osmunda for Disas and since it is so freely available I would now use nothing else.

HYBRIDISATION OF D. UNIFLORA WITH D. RACEMOSA

In January 1963 when pollinating *D. uniflora* it so happened that I had a few *Disa racemosa* plants, some of which were also in flower, and with no great expectation of success I fertilised a number of *D. racemosa* flowers with *D. uniflora* pollen.

Very large seed pods quickly developed but the resultant seed was so very fine that I doubted whether it could be fertile. However, sown on a sphagnum moss bed and treated in the same way as *D. uniflora* seed this hybrid seed did in fact germinate, not only very quickly but with almost 100% fertility.

I should here mention that the parent plant *D. uniflora* was in every case the true red form as found on the Helderberg and Hottentot Holland range and *not* the pink form from either the Hex River or Fonteintjiesberg.

Since *D. racemosa* is a true terrestrial orchid there was some uncertainty as to the best method of trying to cultivate the hybrid but in the end it was decided to treat it exactly as if it was a straight *D. uniflora* and with this treatment growth was both rapid and almost trouble-free as regards fungus.

The result of this first basic cross far exceeded my expectations. Firstly the hybrid, as is often the case with hybrids, is far more robust and resistant to disease than is *D. uniflora*. It grows more rapidly and it flowers much more prolifically and the mature plant may well reach a height of almost three feet with anything from 8–14 flowers on a spike. Like *D. uniflora* the flowers open from the base of the spike upwards and the whole flowering period may well extend over 3–4 months.

Whilst the colour of the hybrid flower is a varying shade from very pale to dark pink in its general form it closely resembles *D. uniflora*, though only about $\frac{2}{3}$ of the size. Moreover, unlike *D. uniflora*, which has a fairly sharp spike at the back of the cup, the hybrid has inherited a characteristic of *D. racemosa* in that this spike is much abbreviated and more rounded.

Very exciting possibilities seemed to open up from the success of this first hybridisation and in January 1965 I pollinated a number of hybrid flowers again with *D. uniflora* pollen, hoping from this second cross to evolve a flower with all the fine characteristics as to form and colour of the first hybrid but perhaps with a flower as large as *D. uniflora* itself.

Good seed pods resulted, and seed was sown in March 1965, and to my great disappointment no germination occurred. Fortunately these seed trays were not thrown away for now, in November, eight months after sowing and despite the fact that for much of this period the trays have been largely neglected, some spasmodic germination has resulted and it is hoped to get perhaps 20–30 plants.

If this work can be carried on at Kirstenbosch there are all sorts of interesting possibilities to be explored and though botanically it doubtless is of no great interest, the horticultural possibilities are very great indeed, and, amongst other things, the following should certainly be attempted:

(*a*) The reverse crossing—i.e. pollinating *D. uniflora* with the pollen from *D. racemosa.* I *think* that in this basic crossing the resulting hybrid will probably inherit the prime characteristics of the male or donor plant in which case one might expect this hybrid to have flowers rather smaller than the present hybrid, perhaps a darker colour, and probably the plant would grow best in a terrestrial setting.

(*b*) If one could fertilise *Herschelia graminifolia* with *D. uniflora* pollen one *might* produce an orchid which would be a world-beater. One can imagine evolving in this way ultimately a superb flower the size of *D. uniflora* but with the cerulean blue colour of *H. graminifolia* and with the astonishingly vivid green centre.

(*c*) And finally one might well try crossing *D. longicornu* with *D. uniflora*, again with the chance of producing a blue or a mauve flower with superb form and shape.

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Ursinia geyeri—With some Notes on its Cultivation at Kirstenbosch

H. Hall
Senior Horticulturist, Kirstenbosch

ORIGIN AND BRIEF DESCRIPTION

The discovery of an outstanding, crimson-flowered "Daisy" in the western Cape a few years ago created considerable interest in botanical and horticultural circles. It was collected by Dr. A. L. Geyer on the western fringe of the Ceres Karoo in 1958 and was subsequently published as a new species of Ursinia in the Journal of South African Botany Vol. XXVII, pt. IV in 1961. Doctor Geyer informed us that it was not abundant and that it invariably grew within the shade and protection of karroid bushes, through the branches of which the Ursinia stems intermingled, the rich crimson flowers reaching up through these to the sunlight. Doctor Geyer also noted that sheep and goats browsed upon them, therefore the shade plants supplied some measure of protection from complete extermination.

It is a perennial though it rarely survives a second season at Kirstenbosch. However, it is reasonable to assume that it is much longer lived in the wild state. Without support its habit is low and spreading, about a foot in height and two feet or more across. The silvery-grey leaves as seen on wild plants are much greener under cultivation here—a not unusual behaviour—and the flowers, about two inches across, are produced from late winter to mid-summer, with the best display about September. By pruning back the longer branches and old flower stems, a more compact state is obtained and the flowering season prolonged, after which they are inclined to die of exhaustion. The outstanding flower colour makes a very welcome addition to the preponderantly orange and yellow shades met with in the rest of the Ursinias and other allied "Daisies".

PROPAGATION

A. By seeds

To obtain the best results for Spring flowering the seeds should be sown in the Autumn, as with the bulk of the "Spring Annuals", in a sunny, well-drained place and preferably in a sandy soil. Heavy soils should be given a liberal amount of sand and old compost to lighten them. Trials during the past five years at Kirstenbosch have proved that the seeds germinate most satisfactorily when sown in a well-prepared seed bed fully in the open ground, lightly raked in and covered with no more than ¼ in. of clean sand, well watered in and kept moist. Seedlings should appear within two weeks and when about a month old should be large enough to plant out in their flowering sites. By planting the seedlings into boxes of rich, sandy soil they will transplant with better results at the appropriate time, roughly during May and June. Planted no more than a foot apart, their branching habit will soon form a complete cover and provide mutual support. As the stems are quite brittle strong winds can damage them, this being minimised by placing a few twigs between the branches, inserted in the ground.

Seeds are freely produced throughout the flowering season and may be gathered by removing the entire seed head—which tidies up the plants somewhat—but they are seen to mature gradually over several days therefore it is best to leave them still attached as long as possible.

In any case, they fall from the head at the slightest puff of wind and it is from the ground that one will eventually harvest the most. Because seed is freely produced and plants flourish so well in one season, it is best treated as an annual.

B. By layering

This species can be readily increased by layering as scarcity of plants warrants it. The branches reclining on the soil can be carefully pegged down after first lightly forking the surface to ease the way for the new roots to gain a hold. When rooting is well established the branches can then be severed and transplanted to where needed. Such plants, however, never attain the vigour of the parents and barely survive the following winter. No more than an inch of soil gently eased over the stems near growing tips also aids this method of propagation.

C. By cuttings

Conventional cuttings strike quite readily in pots of light, sandy soil, choosing the short, lateral branches, removed with a very sharp knife. These cuttings should be not larger than 2 to 3 inches, a garden frame being quite suitable, and kept steadily moist and lightly shaded. Once again, such plants from cuttings never attain the vigour of a seedling neither do they form the same spreading habit. Since every lateral branch, no matter how small, terminates in a flower-bud, frequent nipping out of flower-buds is necessary to encourage bushiness.

In 1966 Doctor Geyer informed the writer that, as an experiment, he had heavily manured several pockets of his rockery for his own amusement and was quite enthusiastic by the improved crop of flowers and greatly increased vigour. It must be remembered, however, that this took place at Barrydale with its karoo climate and should not be overlooked by those who might wish to experiment with organic fertilizers. This one report of growing *Ursinia geyeri* in enriched soil, and its favourable results, together with our five years' efforts with it in Kirstenbosch, modifies the writer's earlier comment in the above cited publication that "this species is evidently slow growing."

From that day in 1958 when Doctor Geyer brought me, for possible identification, one small branch with its striking flower, followed by a living plant for observation and cultivation, the development of stock became almost an obsession. Yearly treated as an annual, each Spring admired with envious eyes by visitors to our Nursery, the repetition of beautiful crimson flowers refuting the view by one botanist that it was but an unstable colour-freak, I eventually harvested 28,000 seeds in 1965 which were distributed to Botanic Gardens and some research stations throughout the world. The harvest in 1966, augmented by seeds collected from plants in the Karoo Garden, Worcester, was even greater and thus made it possible for the Gardens to distribute free seeds to members of the Botanical Society of South Africa.

Still a Place for the Amateur

DUDLEY D'EWES
President of the Botanical Society of S.A.

THE presentation at Kirstenbosch last month of the Harry Bolus Award to Dr. Gilbert Reynolds was more than an honour for distinguished botanical work. It is a strong refutation of the view prevalent among many people that the day of the amateur in science is over. It is far from over and this award to Dr. Reynolds should be an incentive to others to put real thought and perseverance into their hobbies.

During most of the time in which Dr. Reynolds was collecting materials for his two books on aloes he was also earning his living. He is not a rich man able to indulge a hobby because all his time is spare time.

How on earth he managed to do it I do not know. His first book, on the aloes of Southern Africa, was a formidable volume, full of pictures taken in the field and full both in pictures and text of evidence that the author had done his work the hard way: not only from books or in the cosy though sometimes musty atmosphere of herbaria, but by visiting the plants in their natural habitat and doing the whole job from living specimens.

The new book on the aloes of tropical Africa and Madagascar, demanded even more time and hard work. And by hard work I do not mean only botanical work; since he tried to see every species in its natural habitat, it meant travel too.

And by travel I do not mean the kind of trip my colleagues on the section of the *Cape Times* try to popularize. Gilbert Reynolds had to go into some of the wildest parts of Africa. At the Botanical Society meeting last month he showed us slides of some of the tribulations his vehicle had to bear in his thousands of miles in search of aloes. Much of it was tough going. And when he got anywhere he might still have to climb to the top of a hill or a mountain to find the plants he was after.

The books he has produced sort out the aloes as far as they can be sorted out at present. I do not expect that there will be any serious revision for many years, although as Dr. Reynolds himself says, there may be a few (I think myself very few) additions of new species or revisions of the few known species he has been able to track down.

Dr. Reynolds's stature as a botanist is indicated by the fact that he is a fellow of the Linnaean Society—an honour accorded only to men whose work is recognized as sound by the world's top botanical brass.

Yet he started his work on aloes in the Thirties in the same amateurish way that many of us have tried and failed with many garden subjects: he recounts in the preface to his first book that he dug an aloe out of the veld and planted it in his garden. It died. And he took it from there.

In doing so he follows in a distinguished line.

In South Africa Harry Bolus, after whom the Botanical Society's award for amateur workers is named, was himself an amateur. In fact he was a stock-broker, which seems as far removed from botany as you can get. Yet he was after Marloth (a medical doctor) one of the most distinguished workers in South African botanical history.

But he was following precedents set long ago oversea. George Bentham is generally regarded as second only to the great Hooker among nineteenth century British botanists, yet he started the great "Handbook of the British Flora" as a before-breakfast relaxation. He was and remained an amateur all his life. He collected an enormous and valuable herbarium, which he presented to Kew in 1854; and he worked there until his death 30 years later.

Long before that the Rev. Stephen Hales combined running a parish with experiments in both animal and plant physiology and added much to knowledge in both zoology and botany, although the cruelty of some of his animal experiments is by modern standards revolting.

If it had not been for the recent example of Dr. Reynolds it could have been argued that the time for serious amateur work has ended. Most of the emphasis in science and especially on the research side is on teamwork. It is often said that the day of the lone worker or the individual genius like Newton or Darwin or Einstein is over. It may be in some branches of science. But in fields like botany and horticulture it is far from over and I think one of the most valuable by-products of Reynolds's two aloe books is their up-to-the-minute proof that in our age, there is still a place for the amateur in the kind of science which is of importance to the regular readers of this column.

It is not only in botany and gardening, but in all related and similar sciences particularly those that depend on field work and flair for good results—palaeontology, for example.

The late Dr. Robert Broom did not start life as a fossil hunter. He was a medical doctor whose hobby grew into a prodigious professional status as an expert on prehistoric life. And Dr. Sidney Rubidge, of Graaff-Reinet, honoured with a doctorate by the University of the Orange Free State for his amazing work as a collector of fossils, is a farmer who glories as much in his family's stud merino sheep as in the valuable museum he has built on the farm.

All this should be an inspiration to other amateurs. As Gezelle sang:

„Op! Wat ander kan,
Dat kan, dat wil, dat zal ik!"

With acknowledgments to the *Cape Times*.

SPECIAL THANKS

We express our sincere appreciation to Mr. K. C. Johnson for his kindness in sponsoring the two colour blocks (appearing in the frontispiece of this Journal).

Sowing and Growing at Kirstenbosch

MARGARET LAWDER

NEWS received from overseas members of our Society during this year has shown us here in South Africa that there is tremendous interest in sowing and growing our indigenous plants thousands of miles from their natural habitats. It has shown us too, how successful many growers are—it is no easy task, for example to persuade that strange desert plant *Welwitschia bainsii* to live tolerably well in an English midland town where air pollution is a big horticultural problem! A member in South Sweden writes that a number of Cape plants do well in his garden. We have long suspected that proteas under cultivation are more successful in New Zealand than they are here and the well-known Cape 'proteaologists', Walter and Ruth Middelmann who visited New Zealand recently, confirm that this is indeed so.

From Australia come reports that among other species *Haemanthus coccineus* is one of the Cape bulbs which has proved a good emigrant—it and other members of the genus (*H. katherinae* and *H. albiflos*) are among the many 'South Africans' grown by a Hollander. In the U.S.A. a botanist writes sadly that a promising collection of young *Disa uniflora* plants died of neglect during his absence on holiday—but that he has seed and is trying again.

Gardens of indigenous plants are becoming popular here in South Africa—they not only give great pleasure but assist the important task of conservation by cultivation. A Natal amateur gardener has one hundred and fifty species of South African bulbs in her garden. From all the provinces comes news of successes with a wide range of indigenous plants.

As well as successes, many gardeners both here in the Republic and overseas have problems. We cannot, of course, help to solve these by offering techniques to suit conditions with which we are not ourselves familiar, but we hope that this short account of how some species are grown at Kirstenbosch may assist by enabling members to simulate as best they can conditions which suit some of South Africa's plants.

This modest account of sowing and growing at Kirstenbosch is offered with the permission of Professor Rycroft, Director of the National Botanic Gardens and has been made possible through the courtesy of his staff who so kindly found time to talk about their work.

For the benefit of overseas readers, we mention here that March, April and May are the Cape's autumn months. After the hot dry months of summer, rain has fallen and an upsurge of growth takes place which reminds one in some ways of a European spring—but there is an important difference—days are shortening and temperatures are falling. Temperatures are between approximately 80° F. dropping to 50° F. or lower at night.

June, July and August are the chilly wet winter months—very heavy rains fall with sunny days interspersed; at Kirstenbosch there are no frosts. Spring begins in September or earlier and brings the Cape's famous displays of annuals and bulbous plants. Summer is very hot and dry.

One hundred and sixty thousand annual plantlets are set out in flowering positions at Kirstenbosch during autumn. This is a formidable task but one which has proved to be worth while. In situ sowings were abandoned some years ago; they are often unsuccessful in amateur gardens too—heavy rain or an unusually warm day can ruin such sowings. Seed beds should be level to minimise rain damage and they should be near a tap so that they can be watered when necessary.

The seeds of annuals and of some other plants are sown fortnightly from March 15th throughout April into late autumn. The seedlings are planted out as soon as they are big enough to handle. South African gardeners should not follow Kirstenbosch dates exactly unless they live nearby—an adjustment of a week or two either way may be necessary according to local conditions.

The bright daisy-like *Dimorphotheca* is sown in autumn; it is important to note that the mildew which is often so troublesome on March or April sown *D. sinuata*, can be avoided if sowing is delayed until May.

Two lovely blue flowered annuals are sown in autumn. They are *Chariesis heterophylla* and *Heliophila longifolia* which last is often erroneously called the Cape flax. I have not seen seed of the two annual *Psilothonnas* offered commercially in either South Africa or in any of the overseas' catalogues which I have before me. Fortunately the Botanical Society has Kirstenbosch seed of both for distribution. These two, *P. speciosa* and *P. tagetes*, often called orange edging daisies, are very effective if planted out close together as at Kirstenbosch.

Cuttings of *Felicias* are taken now. Their blue flowers are pretty and the plants make good borderers. Kirstenbosch horticulturists strongly recommend this vegetative propagation (i.e. cuttings). There is an exception, however—*F. tricolor* is grown from seed sown in spring.

If you have the urge to raise our lovely red disa (*D. uniflora*) from seed, autumn is the time to make the attempt. Kirstenbosch seed is collected during autumn (South African) and is only viable for a short time. The sexual propagation of disas is certainly not for the 'hit or miss' gardener (vegetative propagation material is not available) but success has been achieved at Kirstenbosch without the use of any elaborate equipment. A study of the pamphlet on *D. uniflora* which may be obtained from our Society's headquarters will save much disappointment—and waste of seed. It costs ten cents or one shilling.

Kirstenbosch staff sows most perennials in spring but there are a few which do better started in autumn. Among these are *Anchusa capensis* the Cape Forget-me-not, *Arctotis acaulis* which makes a colourful show in spring and the trailing *A. stoechadifolia*.

A big job at Kirstenbosch during autumn is the preparation of ground for ericas and proteas which are to be planted out in winter (July). These plants will have been in their tins for a little over a year. It is important to note that two pound jam tins are used—the pint oil tins, so useful in the garden, are too small for best results with these species. Holes are not dug but plenty of compost is mixed into the soil. The compost must be acid. If made principally of oak leaves, acidity will be assured but where mixed materials are used, sulphate of ammonia is sprinkled over the heaps during making.

Watsonias are sown in autumn; members within the Republic can purchase corms from wild flower nurseries. Under certain conditions, at least one nursery is able to send corms overseas. A well-known horticulturist in England wrote recently that watsonias present problems in England; he himself has however been successful since he has simulated South African conditions—most watsonias need a dry warm place after the leaves have died down, after flowering. Some are, however, not deciduous and may require different treatment.

'South Africans' are not all by any means easy to cultivate but during more than fifty years many problems have been solved and techniques developed at Kirstenbosch which has been aptly called South Africa's living museum.

The Doyenne of Betty's Bay, Olive May Porter

MARJORIE BAKKER
Rondebosch, Cape

WHEN Mrs. Olive May Porter recently declared open a new footbridge linking two beautiful kloofs, Disa and Leopard, at Betty's Bay, her delicate voice may have been hard to hear but her speedwell blue eyes were as sparkling as in her youth, as she related her husband's dream of Shangri-la. This began when he was a mere boy of sixteen and was realised only in 1952 when he turned the first sod of the Nature Reserve, which was handed over to Kirstenbosch in 1959.

My first meeting with this strikingly pretty woman was some years ago when I was bidden to her home at Betty's Bay. This was built on a large circular plan. Elegant and full of fascinating articles—a grand piano—hundreds of books—paintings of the lovely spots along the coast—embroidered panels and a marvellous screen covered with all the wild flowers which have since become famous. She herself was upright and gay, direct and romantic, and quoted spontaneously from her favourite poems. I had four teen-age lads with me, who, instead of registering the usual boredom engendered by anyone over the age of 25, were positively enthralled by this unusual and vivid personality (not to mention her excellent tea!). Mrs. Porter was looking for a chronicler, and some one who would take charge of all the books collected by her late husband to form a Library for the residents and visitors to the area. I was not able then to respond to her request and shortly afterwards her beloved home was burnt down and all her historic objects destroyed by the dreadful fire that swept down the length of Betty's Bay early one morning just before Christmas, 1960. She was lucky to be rescued from the flames, but has never quite recovered her old gaiety and optimism.

She no longer lives at Betty's Bay, but we have since met and talked of the origins of that fair coast, now known to botanists all over the world as the place where one would find the South African vegetation called 'fynbos'.

Motorists driving through the area wonder what its attraction is as there are no glittering lights, nor any speed boats polluting the air. This is fortunate for the people of discrimination who either live or have holiday homes there. I always found too much to do and see and the days in truth were never long enough for anyone loving the beauties of nature. There are excellent beaches; an inland bass lake for fishermen in which small children can gambol and sail their canoes and dabchicks; waterfalls roaring into a deep river, with delightful picnic spots under huge indigenous trees and a good swimming stretch; an old harbour and a picturesque wreck; rock pools and an exciting inlet to a sea lagoon, where fish can always be caught from a boat; and wonderful walks on the mountain slopes or over the dunes which have been preserved by the planting of marram. The surfers too have recently found it good enough for their patronage!

The possibility of developing all this natural beauty impressed three business men who visited the coastline from Rooi Els to the Palmiet River at the beginning of World War II. They had been asked by the Hangklip Beach Estates in Johannesburg to report on the wisdom of buying that tract of land. A North West gale was raging throughout their visit, which was depressing; and two of the men eventually voted against the project. Harold Porter, however, refused to be deterred by the fierce weather and shouted against the blast "Yes, Yes! I say Yes. I see a glorious future. We cannot afford to lose such a grand proposition."

I was living in Johannesburg at that time and became the venturesome possessor of one of the plots right on the beach front. Many people from Rhodesia and Johannesburg were attracted by the brochure which advertised the newly surveyed Betty's Bay Township. It had been named, Mrs. Porter told me, after Betty, a daughter of Mr. Clarence, one of the men interested in the scheme.

In 1942, when the war news was black for the Allies and the Japanese were threatening our coast, the Hangklip Beach Estate authorities decided to withdraw their interests but Harold Porter, so his widow proudly declared, stood firm and announced "Do as you like! I am standing until I fall in the last ditch". This determination injected courage into the scheme and when Mr. Clarence died soon after, Harold Porter managed to obtain the available shares and saved the Estate from any undesirable development. A high standard of building was set—almost too high, as only thatched or shingled roofs were permitted on the well-built houses. This proved to be a serious fire hazard, and has since been eased.

When reminiscing on the early days, Mrs. Porter had dramatic stories about ships that had been wrecked and the activities of the whalers which were based on the little harbour, still used by fishermen and explored by many swimmers at low tide. She relates tales of *Three Masts*, which are etched on her memory. The first tall mast, salvaged from a wrecked ship at Donkergat, was lugged round the coast by the "Bantu Post" and erected beside the Norwegian Captain Elt's cottage, which later became a home for the H.B.E. employees. Flags were flown to whalers far out at sea from this mast.

A whaling ship, "Una", from Cape Town was filled with ballast and driven ashore at the Clareport Harbour to form a bar. She had a fine mast which it was planned should flaunt a Jolly Roger flag at a proposed Tea Kiosk at Rooi Els but this now lies rotting in the gleaming sand and sun. Finally a fishing boat "Sabina" ran ashore on a stormy night, and landed beside "Una" on deep sand and rocks at Stony Point. Mr. Waller, who was the original owner of the holiday resort, now called "Four Seasons", acquired Sabina's mast and fixed it next to the Tea Room, where it flies a flag of welcome. Another landmark was an enormous whalebone which stood for many years on one of the beaches until some vandal hacked it to pieces.

Originally the township was designed to have its own airfield, hotels, shops and schools and a challenging nine-hole golf course was laid out around the Bass, or Malgas, Lake. This, alas for that particular sport, was allowed to revert to wild heath and reeds and scrub where buck can hide, when the whole township became incorporated into the Caledon Divisional area a few years ago and fell under the management of a local Board which, though enthusiastic, has not the funds for such luxuries. There are now over 70 holiday homes and about 15 permanent residents. When the late Dr. Verwoerd decided to build a holiday home there, the place inevitably attracted new visitors and cars cruised round in the hopes of glimpsing the Prime Minister and his family and the famous bulldog Monty. He, incidentally, was very friendly and would follow me and my poodle for long distances and had to be turned home at the foot of high sand hills which defeated him.

Now there is a superb road skirting the mountains and winding above the beautiful rocky coastline from Gordon's Bay to Kleinmond but 25 years ago there was just an old cart track and no bridges at all. During the War permits had to be obtained from the H.B.E. offices before Betty's Bay could be approached, as there was a Naval Signal Station for SWANS near the harbour. A large settlement was built near Pringle Bay for the convicts who were hired by the Estate to build a good road. At Rooi Els a bridge was constructed of derelict beams from the ruins of the whaling station, and drivers were warned, Mrs. Porter recollects, to proceed with care, without pausing, on the protesting bridge! The Palmiet River was crossed on a pontoon made from derelict lifts donated by Mr. Buchanan, pretty precarious and dependent on the ebb and flow of the tide, which sometimes held cars up for hours. The stream descending from the Waterfall in the Disa Kloof (now known as "The Cascades") was not bridged. In the early days clothes were hitched up and parcels carried on heads when the stream was forded. Later a causeway was built which was washed away to sea in a fierce storm in 1945 and replaced eventually by a solid bridge. Whereas previously all food, supplies and post had to be transported by foot or hoof, there is now a modern Post Office and shop run by an energetic and helpful couple, who can always give advice about the best bait for the season and wind.

Betty's Bay is reputed to have the largest concentration of indigenous flora in one small area; and has the unique red disas growing in the two ravines, with fields of blue on the tops of the mountains behind. It is ironic that after each terrifying fire there is a blaze of colour to compensate—yellow senecio, mauve cineraria, white and blue lilies and aristea, tall satyria and hundreds of *Gladiolus blandus* bursting out of the phosphorus-covered soil, freed from the choking reeds and grass runners that within three years will have regained control. It was Harold Porter's wish that the Nature Reserve should be reserved for the pleasure of all nature lovers and Kirstenbosch officials are busy expanding its scope. The famous "melkbos" glade with gnarled and twisted trunks is delightfully Wrackhamesque and is an ideal picnic place with water taps and fireplaces for braai-ing although camping is forbidden.

Among the distinguished residents is the botanist, Mrs. Marie Murray Vogts, whose Protea books are famous. On her husband's retirement from Pretoria, the family built and moved to a beautiful home near Cascades, and within two years had established a magnificent garden of indigenous flora. Mrs. Vogts is in charge of intensive research into the propagation of proteaceae and visits her mountain seed-beds daily. A retired doctor, a University Vice-Principal, a Professor, a Senator, a family of teachers, a psychiatrist, an ex-Springbok rugby player, an attorney, two builders, a bone-specialist and members of various other professions are among those who love this coastline.

Mrs. Porter's old home has never been rebuilt. Throughout the years fires have swept along the valleys, over the dunes and in swathes across the mountains but have fortunately never yet touched the Kloofs. The Ratepayers have formed an efficient fire-fighting service, of which the late Karl Richter, bodyguard to four of South Africa's Prime Ministers, was Firemaster before his last illness. There has been talk of a club or meeting place for films or parties for the young although in Mrs. Porter's memory there were adventures and entertainment enough in "those happy days which have passed away for ever". The enthusiasm and foresight of nature lovers like Harold and Olive May Porter, however, will ensure spiritual adventure and happiness for future generations by the preservation of the beauty of our land.

The Kirstenbosch Nature Study Classes

Mrs Anne Bean
(formery nature study teacher at Kirstenbosch)
Bulawayo, Rhodesia

The classes at Kirstenbosch were initiated quite informally by Mrs. L. Bolus soon after the establishment of the Gardens in 1913. Already at that time, the increasing population on the Peninsula was arousing anxiety about the future of the mountain flora. It was perhaps felt that the only way to guarantee its survival was to awaken in the people of the Cape a sense of proud ownership of a rare treasure. Such an informed body of opinion is the surest, perhaps the only way to protect beautiful things which do not seem to be of any material use in this appallingly money-conscious age. Mrs. Bolus introduced several groups of students to the Cape flora by means of holiday field courses which were such a great success that the Education authorities were persuaded to establish a permanent post for a nature study teacher at Kirstenbosch. The first two incumbents, Miss L. Starke and Miss M. E. Johns, had both been students at Mrs. Bolus' field courses.

During Miss Johns' period of office, the number of children wishing to attend classes at Kirstenbosch increased to such an extent that the Education Department agreed to establish a second post during World War II.

The rate at which man is degrading and destroying his surroundings has been speeded up proportionately to his increasing numbers. No one seems to stop and think of the end of this process, when all the beauty of the world, all its empty spaces, all its wonderful wild life have gone. Would it not be better to stop in time to save something worthwhile . . . to allow man the opportunity to contemplate his spiritual and intellectual horizons? To do this, man needs peace and tranquillity, away from crowds, in the solitude which is his right.

In order to battle successfully against these looming, overwhelming odds, we need to have as many people as possible aware of the essential value to themselves of wild life and unspoilt places. It is hoped that the Nature Study Classes, by introducing children to the beauties of the Cape Veld in the unexcelled environment of the National Botanic Gardens, will not only give them an understanding of the living world around them, but also through pleasant childhood memories a knowledge of where to seek solace from a worrying world throughout their lives. Thereby, the future of our flora and fauna is most likely to be assured.

Research is best carried out by those who have a great love for and interest in the object of research. Perhaps the Nature Study Classes are helping to awaken the first interest of some future research scientist in our flora and fauna. If this or the previous aim are even in part achieved, then I feel the classes are justified.

Every day of the school year sees a group of school children arrive at Kirstenbosch for their quarterly Natural History outing. Most of them will visit the Gardens twelve times during their primary school period, and will be shown as much as possible of our indigenous flora and fauna during that time. An attempt is made to develop in them a sense of pride in our natural possessions, and at the same time, some understanding of structure, function and relationships in order to arouse in the children, through understanding, a desire to preserve and protect rather than to pick, kill and destroy.

It is, however, one thing to have such objectives, but quite another to achieve them, as any teacher knows. Small boys and girls on an outing from school have very little intention of spoiling their picnic by mixing it with work, and boys particularly have a built-in suspicion of adults who are too enthusiastic about flowers. They must first be persuaded that Kirstenbosch is not intended solely as the finest playground in the Cape, but rather as its most interesting classroom, and then be enticed into investigating the intricacies of the structure of plants without realising that they are 'learning about flowers'. In order to work up the enthusiasm and interest which we hope will achieve our ends, we have evolved a variety of approaches among which is a surprisingly effective lesson technique, incorporating a treasure hunt, competition and careful observation of trees. It results, we think, in a fairly wide knowledge of the structure of plants and how to recognise them.

The lessons range from flowering to non-flowering plants; rocks, soils and water, through to mammals, birds, reptiles and all smaller creatures. As long as some aspect of the subject has actually been encountered during that day almost anything within the ambit of Biology, or human affairs related to Biology, can be discussed, or investigated. It is for this reason that we frequently find ourselves departing entirely from the planned lessons for the day. A mountain fire, a snake, or a stone-mason building a wall may send us off in quite a different direction.

And what of the future? There seems to me to be many avenues into which the educational activities of Kirstenbosch could be expanded. First and foremost it would help to accommodate the maximum number of children if the teaching staff could be expanded to six. No further expansion in this direction would be advisable, because the Gardens are not large enough to remain unspoilt if more children than this were to come.

Thereafter, quite different activities should be considered. One of the most useful would be the provision of regular refresher courses for in-service teachers of Nature Study and Biology. This is by no means a new idea, having been conducted in the past by my predecessor and valued mentor, Miss Johns.

The extension of our work into the High Schools, possibly by means of field courses during the holidays, might prove a useful adjunct to the normal Biology lessons in the classroom. Such courses could introduce the older children to experimental methods in the field as well as giving them a brief grounding in that neglected but most vital subject, Ecology—the study of living things in their natural surroundings. Without this, how can we ever understand that *we* are still dependent upon *our* environment, and must not destroy it? The study of a natural, undisturbed community has many valuable lessons for us, and if man can learn how best to harvest a natural community without thereby destroying it, he will be on the way to realising the greatest potential of our veld. At present he is rapidly destroying everything without trying to learn how best to make use of what exists. We must find ways of avoiding this before it is too late. We must turn whole generations to come into convinced conservationists, so that the word 'progress' does not herald destruction and ugliness, but rather the best use of the world's surface for man's spiritual, intellectual and material well-being. It is hoped that the classes at Kirstenbosch are making a valuable contribution to this ideal, and will long continue to do so.

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A Wonderful Year at Kew Gardens

PETER LAW
Senior Horticulturist, National Botanic Gardens, Kirstenbosch

How difficult it is for most South Africans to understand the true meaning of the changing seasons. I consider myself extremely fortunate in having witnessed winter, spring, summer and autumn at the world's most famous botanical garden.

The Royal Botanic Gardens at Kew cover an area of about 300 acres and are situated on the East Bank of the Thames, in the beautiful County of Surrey.

The Botanic Gardens date back to 1759 when Princess Augusta initiated a botanical garden of about nine acres in extent in her private domain of Kew House—a venture entirely her own. Nothing remains of the original residence or garden, apart from an ancient, but extremely well-preserved towering *Ginkgo biloba*. It was not until the year 1841, that the Botanical Gardens were handed over to the care of the State.

My own first introduction to Kew was early in 1966. It was a cold and damp winter's morning, but my spirits were soon raised and warmed as I caught my first glimpse of snowdrops. Everything else in the garden was bare and apparently dead, but these tiny flowers peeped out of the cold frosty earth, and seemed to bring hopes of brighter buds about to burst into bloom.

I was fortunate in being able to work in the gardens themselves rather than under glass. In this way, although I had to endure everything the English weather had to offer, I was also able to appreciate every tree, shrub, annual, perennial, bulb or whatever came into bloom.

March and April are the months of the Camellias, Crocuses, Forsythias and Daffodils. The latter were a solid sheet of yellow forming a carpet under trees that were in various stages of shooting forth young green buds.

After the early spring bulbs have flowered it is the turn of the Magnolias, Lilacs, Cherries and Crab-apples. Unfortunately, many of the above and the early-flowering Rhododendrons were rather hard hit by an 'out of season' snowfall in the middle of April. This tragedy, however, was compensated for towards the end of May by the sight of acres and acres of blue-bells in the Queen's Cottage grounds. More Rhododendrons and Azaleas were to follow in every conceivable colour. Some of the bushes stand up to twelve feet, and are so covered in bloom that only the smallest suggestion of foliage can be seen amid the masses of yellows, reds and pinks.

In June and July the Roses are at their very best, and what a display there is behind the Palm House! The herbaceous borders come into their own and prove that it is well worth the effort of tying, pruning, manuring, spraying, staking etc. during the rest of the year. The summer bedding too is most colourful. Needless to say, most of the plants are exotic and quite tender to the English climate. The bulk of the bedding plants are grown in the nursery under glass, and many are already in bloom on planting out.

From the beginning of October the autumn tints are a further colourful attraction. The Maples are especially beautiful and range from various shades of reds to burnished browns. The Fraxinus, Quercus, Berberis are also outstanding for their autumn colours.

Even in November and December when the first frosts start, Kew is still full of interest when many of the fruiting shrubs and trees are at their best. Some of the more outstanding examples are Malus, Berberis, Pyracanthe and Cotoneaster. Of course, by December most trees and shrubs have lost all their foliage and so much of the Garden is very bare but even then the trees hold some sort of eerie fascination, standing out in weird shapes and sizes in the December mists. As the sun set like a red ball over the horizon on my last afternoon at Kew, I bade the Gardens farewell with the wish that I might one day return to witness again all that I had seen in one short but very precious year.

Cultivating some S.A. Iridaceae in France

Dr. Maurice Boussard
Verdun, France

For the ten years that I have been collecting every plant belonging to the Iridaceae family (true botanical species only, not hybrids), I have been able to muster up about 450 species, native from all over the world, divided into fifty genera. This collection includes 30 genera and 150 species from South Africa and I am pleased to impart to you some observations I was able to make on its cultivation here.

Verdun, the town where I live, is in the N.E. corner of France, an area with a rather hard climate. We have winters with spells of severe frost (down to —20° C or —5° F) and overall with alternate conditions of freezing and thawing, which prove to be very injurious for many plants, chiefly in the growing period. Rainfall occurs (annual average: 800 mm or 30 in.) all year around but with a maximum in late fall and winter. Our summers are rather hot and dry, though we may suffer from stormy rains during this season.

Therefore, I grow my Iridaceae in the 3 following ways, according to their needs:

(1) the hardy plants are grown in the open in my garden, without any special care. The soil is neutral (pH : 6,8), light but well drained, poor in lime.

(2) the species from areas with wet winters but dry summers (such as many Iris sp. and many Cape natives) are also grown in the garden but in frames with removable glass. The glass protects them from our severe winter frost and from the occasional summer rains but is removed in autumn and spring.

(3) the decidedly tender plants, particularly the evergreen (*Aristea*, *Dietes*, *etc.*) are planted in a cool greenhouse, frost free in winter.

Thus, all the Iridaceae I possess, even those from tropical countries (such as Brazil), can be satisfactorily grown.

Referring to the South African native Iridaceae, I must say that the majority of my plants was grown from seed obtained from Kirstenbosch and a few kind and smitten South African correspondents. Only a few species came from the northern hemisphere, both from trade and various botanical gardens. I am also pleased to say the valuable publications on Iridaceae by Dr. G. J. Lewis were of great help and interest to me for the knowledge and identification of many of your beautiful species.

First of all I shall review the species I have found least difficult to grow and keep alive—as is the case of almost all in fact!

The following have proved to be hardy in the open here:

Crocosmia aurea, C. maculata, C. masonorum—Curtonus paniculatus—Gladiolus liliaceus (grandis) and G. tristis—Dietes spathacea.

Many others are reasonably hardy, with a slight protection against our heavy winter rains or hard frost, such as:

Babiana rubrocyanea, B. sambucina, B. villosa, Gladiolus blandus, G. cardinalis, G. venustus, Hespaerantha buhrii, H. falcata, H. pauciflora, H. stanfordiae, Homeria aurantiaca, H. breyniana, H. elegans, H. lilacina, Ixia maculata, I. polystachya, I. rapunculoïdes, I. viridiflora, Moraea glaucopis, M. tricuspis, M. tristis, M. villosa, Romulea citrina, R. rosea, R. sabulosa, R. tabularis, Schizostylis, Sparaxis bulbifera, S. grandiflora, S. pillansii, S. tricolor, Streptanthera cuprea, Symnotia variegata, a few Watsonia (W. coccinea, W. knysnana).

Many Iridaceae from summer rainfall areas are also quite hardy if the soil is kept dry in winter such as *Gladiolus crassifolius, G. papilio, G. primulinus, G. psittacinus and so on*).

The following species, though easily cultivated, are really tender and require a cold greenhouse: *Antholyza ringens, Aristea cyanea, A. eckloni, A. thyrsiflora, Bobartia spathacea, Chasmanthe, Ferraria antherosa, F. undulata, Dietes bicolor, D. grandiflora, D. vegeta, Geissorhiza erosa, G. furva, G. rochensis, G. secunda, Gladiolus davisonniae, G. formosus, G. gracilis, G. permeabilis, G. pulchellus, G. recurvus, G. rogersii, G. symmetranthus, G. trichonemifolius, G. viperatus, Homoglossum merianellum, H. priorii, H. watsonium, Lapeyrousia grandiflora, L. saundersonii, Melasphaerulea, Tritonia crocata, T. hyalina, T. lineata, T. securigera, T. squalida, Watsonia letroïdes, W. beatricis, W. brevifolia W. comptonii, W. fourcadei, W. longifolia, W. socium, W. stanfordiae, W. willmaniae, Freesia.*

A few only are temperamental subjects (at least with me), and have not yet flowered. *Gladiolus carmineus* grows well year after year, but without any floral stem!

Several *Watsonia* (*W. bulbifera, W. marginata, W. meriana, W. pyramidata*) start to grow well in late autumn but growing stops in late winter and the leaves wither without bloom; whereas other *Watsonia ssp.* (*W. aletroïdes, W. coccinea, W. comptonii*), grown in the same bed, grow and flourish well.

A few other Iridaceae (*Anapalina nervosa, Thereianthus spicatus*) germinate well but the seedlings suddenly disappear within the following year.

Furthermore, it will be interesting to note that I have planted many of these Iridaceae in a small estate that I possess in S.E. France, near the Mediterranean sea, where all are perfectly hardy. It must be said that this area has the same climate as the Cape and several South African native plants are found spontaneously growing in the wild, not only Iridaceae (*Chasmanthe, Freesia*) but others too (*Senecio mikanoïdes, Phygelius, Tecomaria, Thunbergia* and so on).

May I finally say I would be delighted to correspond with any other members interested in this large and beautiful Iridaceae family, which also includes a lot of jewels from countries other than South Africa (the genus *Iris* for example, widely spread throughout the northern hemisphere, includes about 250 species) and of which I would be glad to procure seeds. As for the species of your flora, I am particularly keen on the *Ferraria* (of which I have only 2 sp.: *F. antherosa* and *F. undulata*), some small and rare genera (such as *Anaclanthe, Galaxia, Syringodea*) and the "shrubby" genera (*Klattia, Nivenia, Witsenia*).

Notes on South African Bulbous Seeds

BRIAN MATHEW
Surrey, U.K.

SOON after joining the Botanical Society of South Africa my first seed list arrived and it was with great enthusiasm that I marked all the bulb species I could. We grow quite a few South African bulbs here in southern England but there are a great many more which are just names in books to us and with this in mind I selected those which are not available from nurseries here.

All my bulb seeds were sown as soon as possible after they arrived in loamless composts (peat/sand mixtures) using plastic pots, and the seed just covered with coarse grit. This keeps moss growth to a minimum and the seedlings push through it without trouble. Good drainage is thus maintained at the surface of the compost and there is less danger of washing the seed away when watering. The grit breaks up the droplets, whereas fine soil sifted on to the surface is easily washed off and it 'pans' down and goes 'sour'. Plastic pots cut down considerably the need for watering and maintain a uniformly moist compost, which I believe is essential for good germination. Peat/sand composts help in this respect also.

The pots were kept in a frost free greenhouse as they arrived when our weather was still very cold. Germination occurred a few weeks later with the first pots and carried on spasmodically through the spring. These first species were:
Ixia polystacha, *Babiana stricta* var. *sulphurea*, *Albuca canadensis*, *Dipidax triquetra*, *Dietes bicolor*, and germination was very good.

Dietes has made large plants, potted singly when large enough in loamless compost. The rest became full of roots and the whole ball was potted into larger sized pots. This is my usual practice with all bulb seedlings rather than pricking them out individually which they do not seem to tolerate. When a fair sized bulb has been formed I dry the pots off in the dormant season and sift the bulbs for repotting or planting out.

Nothing further appeared through the summer, but in July more activity began and *Moraea villosa* germinated well followed in September by *Ixia maculata* and *Homeria elegans*.

All of the above are still growing strongly in a slightly heated greenhouse. The only failures so far are *Homeria lilacina* and *Dietes grandiflora*, but these may yet germinate.

This year's success has been very encouraging and I look forward to adding to my small collection of South African bulbs when the new seed list is received.

Fantasy in Grey

CONSTANCE O'MANT
Bantry Bay, Cape

HE saw the woman tugging at the smaller gate as he was locking the door of his car, and was thinking of going to her aid, but he bent down instead to pick up the car keys that he had dropped.

Drew Hansford smiled when he noticed that she had slipped quietly inside through the large main gates that stood open to the heart of Kistenbosch.

He was a strapping young fellow, an eager Reporter on one of the papers, and had decided on a sudden whim to slip up to Kirstenbosch for a quick cup of tea, before going on his way.

It was a fine spring morning and the sky was of that particular shade of blue that seems to belong to the fairest Cape in all the World. Tiny candy floss clouds floated up towards the sleepy old mountain, that stood like a Sentinel over the lovely wild gardens, day and night.

Just away in front of him, walked the little grey figure. For no reason at all, the young man decided to catch up with her. As he drew nearer, he observed two things, one, that she was humming a jaunty 19th century tune, that he vaguely remembered. It seemed to him that his Mother had hummed that same tune as she darned the socks from the huge basket at her feet.

The other, was the quaint dress that she was wearing so becomingly. It was a strange dress of grey. "Taffeta, by the swish of it", he thought, and suddenly, she had turned and smiled at him.

Her smile was as "radiant as a wild bird's", he thought in sudden delight.

"There I go again—poetry in everything", but somehow the thought did not anger him as it did sometimes.

"Good morning", Drew said politely, and, with unconscious charm ran his hand shyly through his thick copper hair.

"Good morning, too", the little Lady replied and then they were walking up the winding path together, as if they had done it before.

Every now and then she would dart away from him to lean over a patch of starry flowers, and Drew was enchanted by the delicate hands that caressed the blossoms.

"There's something 'old-worldish' about her", he mused, as he watched her, "and yet she can't be old".

He felt like a schoolboy on an unexpected holiday as she chatted to him.

What a world of enchantment surrounded her, and the blue of the flowers about them had drained themselves to colour her eyes.

The lovely contralto voice guided him up the little paths. Tea was forgotten, as she spoke of the mountain, the old orange grove that was once here, but now gone, and many other things—strange things to hear. Was the scent of the blossoms still in the air?

She called to the birds flitting in the trees, and they stopped to listen, then fluttered in and out of the branches in delight, or whirled down like vivid splashes of colour in the golden sunlight.

"These are the singing stones", she said softly, "can you hear them?" and suddenly he did, as the clear mountain water gurgled and tinkled over the flat brown stones.

Turning back suddenly, he found her, sitting quietly, her white slender feet dangling in the clear cold water. Her lovely gurgling laughter rippled through the dripping trees and echoed many times, further away down the Gardens.

Before Drew could get over his surpise she was standing up again and was throwing silver coins into the pool.

"For a wish", she said softly.

Drew bent down and picked up a stray silver coin that had slipped through her curving fingers.

It was old, very old, and for no reason at all, instead of tippling it into the pool, he pushed it quickly into his pocket.

"*This* is the place to wander in", she told him quietly, "a Garden of Eden—a sanctuary—where young lovers come to find a Paradise, and old ones come—to Dream. They tug at the smaller gate, for 'no cross or angry word, may enter there'."

How strangely she talked, Drew thought, and yet, it seemed as if he had heard it all before, on some far off day.

"Look the silver trees are turning their pointed leaves to the sun", she said, her rich voice edging him on to more enchantment.

And so they were! Every tree was swaying gently in the morning breeze. Each silver leaf was thrusting in eagerness towards the warm South African sun.

"And this", she said as they stopped at another pool, "holds the Tale of the Fairy and the Bullfrog. *He* was on that lovely pink waterlily over there, fat, smiling and green. The Fairy? Why! She was here, on this one, poised, like a blue Dragonfly".

Drew watched her lean over to touch the delicate waxen blossom. "She's beautiful", he thought, and she was, with the morning sun filtering like golden stardust through her piled up honey coloured hair.

"He turned into 'Prince Charming' ", she went on dreamily, "and now, they are both here—forever!".

Drew smiled at the conviction in her voice, and the thought struck him that she was reliving some part of her own life, for she seemed to have forgotten him, she was so still.

"Yes", he said gently, half ashamed, "Look at those wonderful trees."

"The Baboons come down from the mountain" she murmured, "I've talked to them. They too, love this place, because it cannot change, and even now on its 50th Anniversary, it *must always* be the same".

Something in her voice troubled him as it troubled her. "It won't change", he said with vehemence, "it *can't*. It shall stay like this—forever. A place, almost in the heart of a lovely city. A place of peace—for the birds, for the trees and the flowers—and love".

"And too, for all those who pass its gates after you", she pleaded gently, "they too, must find it like this, a hundred years hence".

They were happy again as they moved on into the sunlight, and once more the little figure in the strange old fashioned grey dress lingered over the bright flowers, and wet ferns.

They had wandered up and down the lovely Gardens, and like two curious children had discovered Beauty—everywhere. Once again for her, and now, for him.

Sitting peacefully at last, under a tree, he listened to her. He didn't try to question her, but puffed away quietly, the blue smoke from his cigarette spiralling upwards in contentment.

Suddenly she was silent, her lovely face withdrawn from him. He felt unhappily that she was slipping away from him.

"Let's have some tea", he said, and got up quickly. He ran down a few steps to coax her, and looked back at her, like a small boy, begging his playmate to follow him.

But now, she was standing on the top step looking down at him, already out of reach, and her strange grey dress billowed about her like a misty cloud.

"Come"! he called in a panic, but she was gone—she had vanished before his eyes, and only the swaying shadows of the silver trees remained.

In vain he called to her. He pleaded for her to return to him, to resume their enchanted walk, but all he could see were the serene silver trees with their slender leaves turning over and over in the sun.

At last he wandered away to the Tea House, and sipping his hot tea he asked himself these questions—"Who was she, and from where?"

He sat over his tea cups for an hour, perplexed, but no longer unhappy. He was a Reporter, and must get on with his job, he told himself crossly. This was a Dream—in the sunlight.

As he wandered down the little winding paths to his waiting car, he could hear the rich tones of her lovely voice and the "swish swish" of her grey taffeta dress following him.

Searching as usual for his car keys, the tiny metallic sound startled him. Bending down curiously, he picked up the old fashioned silver coin that had slipped from his pocket, and then he *knew* that he, Drew Hansford, the Reporter, would have to write for those that came after!

Her plea—in simple words—"Please keep the lovely National Botanic Garden of Kirstenbosch—just as it is—

A Paradise!—For—Love—
for *you* who enter its gates!"

The Botanical Society of South Africa

ANNUAL REPORT FOR THE YEAR ENDED 31 DECEMBER 1966

The Council of the Botanical Society of South Africa has pleasure in presenting the fifty-third annual report for the year ending 31 December, 1966.

MEMBERSHIP

A total number of 778 new members were enrolled during 1966, who were heartily welcomed. This number was offset by deaths, totalling, 33, resignations 92, while a further 267 names were removed from the membership roll whose subscriptions were two or more years in arrears. The net gain in membership is 386.

FINANCIAL

Subscriptions received: R15,650.73, (1965: R12,681.33) which includes: Benefactor: R800.00, Patrons: R400, Life: R717.38, Corporate: R859.55, Family: R3,333.11, Ordinary: R8,873.89, Associate: R666.80, Other sources of income: R711.50, Interest on Investments: R964.76, Journal advertisements: R131.00. Expenditure items amounted to: R5,120.88 (which includes depreciation on office machines). The surplus figure for the year is R10,419.73, which constitutes the Grant to the National Botanic Gardens for 1966. This has been a most successful year and the Grant is the largest amount ever paid by the Society. In the past three years the grants amounted to:

1963: R8,874.45
1964: R8,272.67
1965: R6,984.64

MEETINGS OF THE COUNCIL

Four meetings of the Council were held during the year.

MEETINGS OF THE SOCIETY

Saturday, 8 *January* — The Special Gathering for visiting members arranged to take place on the Lawn, Kirstenbosch, was held on the verandah of the Lecture Hall instead, owing to unfavourable weather conditions. The President of the Society, Mr. D. R. D'Ewes, addressed the gathering.

18 *January* — Dr. G. J. Broekhuysen gave a most interesting talk entitled "Birds at Kirstenbosch", which he illustrated with two colour films. The hall was filled to capacity by appreciative members.

1 *February* — "Baron von Ludwig and the Ludwigburg's Garden" was the theme of Mr. Frank Bradlow's unusually interesting talk, which he illustrated with colour slides.

15 *February* — Dr. W. P. U. Jackson's audience for his talk on "Looking for the Rare and Noteworthy Flowers in the Cape Mountains", was most appreciative of the beauty of the Cape mountain flora depicted so admirably in Dr. Jackson's excellent slides.

15 *March* — Annual General Meeting. This was a well-attended, successful meeting, followed by Mr. D. R. D'Ewes talk: "The Hawegwas Mountains", which was illustrated with some of his magnificent slides.

12 *April* — Mr. D. Webb, of the Plant Protection Institute, Pretoria, gave a lecture on the subject of "Biological Control of *Hakea* in Australia", which, on an invitation received from Prof. J. Jordaan, was arranged in the R. W. Wilcocks Building, University of Stellenbosch. Mr. Webb, who on Professor Rycroft's request, delivered his lecture in Afrikaans, gave his audience some interesting information regarding the research and experiments being made to combat the increase of alien growth.

17 *May* — Mrs. Joan Pare, who had recently returned from a visit to the United States of America, delighted her audience by relating her impressions of floral art in that country, as well as in demonstrating her skill in using our indigenous flowers in floral arrangements.

7 *June* — Mr. W. Topper, Curator of the Harold Porter Botanic Reserve, gave a most interesting account of his experiments with "growing Proteas from cuttings", which was enthusiastically received.

17 and 18 *September* — Wild Flower Show—an account of which is given in the Wild Flowers Protection Section Report.

1 *October* — A more encouraging number of members attended the annual visit to Karoo Garden, Worcester, in favourable weather conditions. The gathering was addressed by Councillor J. H. de Villiers. Mr. F. Stayner, the Curator, assisted by Mr. Littlewood, showed members some interesting plants growing in these Gardens. Refreshments were served by Mrs. Stayner and other helpers.

15 *October* — This was an ideal day on which Professor H. B. Rycroft, Director of the National Botanic Gardens, gave a most interesting address to a large number of members and visitors on the progress of Kirstenbosch and of the Botanical Society and when he outlined the future plans for further development of the Gardens.

3 *December* — Annual Visit to Harold Porter Reserve, Betty's Bay. Members were most fortunate in having perfect weather conditions for their visit to this Reserve. An encouraging number attended this meeting at the close of the year.

In addition to the scheduled meetings, we were most fortunate in having three additional lectures during the year.

On 9 *August*, Mr. H. E. Nash, of Bedfords Nurseries, Claremont, gave a most enjoyable talk on his visit to the U.S.A. and the hall was filled to capacity.

15 *September* was the date of Dr. G. W. Reynolds' talk on "Hunting Aloes in Tropical Africa and Madagascar". This was highly appreciated by a large audience.

Professor H. B. Rycroft, who had recently returned from attending the 17th International Horticultural Congress in Maryland, U.S.A., gave an exceptionally interesting account of his experiences in Paris, Bermuda and the United States. His talk was entitled "Plants, People and Places" and was held in the Science Lecture Theatre, University of Cape Town, where a record number attended this meeting.

HARRY BOLUS AWARD TO DR. G. W. REYNOLDS

At Dr. Reynolds' lecture on 15th September, he was presented with the Harry Bolus Medal—an award made by the Society to an amateur botanist giving the most distinguished services to the science of Botany.

DONATION OF BOOKS

Dr. Reynolds most kindly presented the Society with copies of his latest publication, the value of which is approximately R100, which he mentioned could be used as a donation towards the costs of the Lecture Hall enclosure.

We record our sincere appreciation to Dr. Reynolds for his generosity.

JOURNAL OF THE BOTANICAL SOCIETY

Part 52, edited by Professor H. B. Rycroft, was published during early November and was distributed to all members, Botanical institutions, libraries, etc. One of the Society's recently-acquired colour blocks, depicting Erica mammosa, appeared on the front cover.

OFFICE BEARERS 1966

The following were elected at the Annual General Meeting of the Society held on 15th March.

President: Mr. Dudley R. D'Ewes.

Vice-Presidents: Professor R. H. Compton, Professor H. B. Rycroft and Mr. C. J. Sibbett.

COUNCIL

Mr. M. G. Botha,
Mr. J. J. Fagan,
Mr. L. J. Hill,
Dr. W. P. U. Jackson,
Miss M. E. Johns,
Prof. P. G. Jordaan,
Dr. G. J. Lewis,
Prof. W. J. Lutjeharms,
Mr. G. J. E. Matthaei,
Mr. W. J. Middelmann,
Mr. J. Minnitt,
Mrs. E. Powrie,
Mr. F. C. Sawkins,
Dr. E. A. Schelpe.

Mr. M. G. Botha was re-elected Chairman at the first meeting of Council.

VISIT TO BOTANICAL SOCIETY BRANCHES

The Secretary was delighted to be granted an opportunity of visiting our Branches at Harrismith and Johannesburg, together with Professor Rycroft, early in the year. Sincere appreciation for this enjoyable visit is recorded.

THANKS

We record out thanks to our President, Mr. Dudley R. D'Ewes and to Professor Rycroft and the staff of the National Botanic Gardens for their friendly help. We express a special word of thanks to the National Botanic Gardens for having the Lecture Hall verandah enclosed with glass which enables us to utilise this extra space at our meetings. We are indebted to Mr. and Mrs. A. J. M. Middlemost who have so loyally and tirelessly helped us in the interests of our Society. We are most grateful to Mrs. Anne Mackenzie for her loyal and valued help in the office; to Mrs. P. Campbell for her able assistance and co-operation: also to Mr. F. C. Sawkins for his readiness always to advise and assist us. To the Cape Provincial Administration for allowing us to use its rooms for meetings of the Council. The daily Press and South African Broadcasting Corporation are also gratefully thanked for their kind co-operation.

Mr. M. G. Botha, *Chairman*
Miss J. Harvey, *Secretary/Treasurer.*

Wild Flowers Protection Section Committee

ANNUAL REPORT
FOR THE YEAR ENDED 31 DECEMBER, 1966

INCOME FOR THE YEAR

Balance as at 1/1/66: R6,020.56. Subscriptions received: R1,327.82, Grant from Provincial Administration: R300.00, Profit on Wild Flower Show: R143.78. Interest received on Investments: R227.62, less expenditure items (which includes depreciation of equipment), R2,597. Balance at 31/12/66 R5,422.40.

WILD FLOWER SHOW — 17 AND 18 SEPTEMBER

We were again fortunate in having ideal weather conditions for our Annual Wild Flower Show, which was officially opened by the Honourable J. J. Fouche, Minister of Agricultural Technical Services and Minister of Water Affairs. Mr. Fouche's address was both encouraging and inspiring and we have pleasure in quoting a section from this, as follows:

"I am impressed by the deep feeling members of your Society have shown for the conservation of our natural flora and by the enthusiasm and perseverance with which you have endeavoured to translate this laudable ideal into action. The protection and propaganda of this wonderful inheritance of ours is a matter that interests me deeply, and I have looked forward, therefore, to this opportunity of closer contact with an organisation and its members who have set themselves a target so noble in its aim.

IMPORTANCE OF THE SHOW

"I also wish to congratulate you on the good work you are doing through the medium of your annual shows to make the general public aware of the grandeur and beauty of our natural flora and floral treasures, and on the magnificent task that has been carried out by your Society over the years, in the interest of the conservation of our natural flora.

"I can assure you that the contribution which you, Mr. President (Chairman) and your Executive, as well as the members of your Society, have made to the development of our National Botanic Gardens, has not gone unheeded, but is widely and sincerely appreciated and will ever remain as a symbol of what the devotion of an inspired group of people is capable of achieving.

"When we cast our eyes over these beautiful gardens and flower exhibits, our mind goes back involuntarily to the literally and figuratively colourful history of this beautiful piece of land which was one of the first quitrent farms of South Africa, and which 250 years later, has become our first National Botanic Garden.

ROLE OF BOTANICAL SOCIETY

"The role your Society has played in the establishment and maintenance of this jewel among the many attractions of our country, is well-known and I hasten to add my tribute to the foresight, dedication and self-sacrifice which have inspired your Society to support the National Botanic Gardens so liberally—truly an important and splendid effort.

"The contributions of your Society towards the conservation of our natural flora and the dissemination of knowledge of indigenous plants among the general public, have been such that your work has attracted attention far beyond the borders of our country.

"In this connection I would like to mention the latest contribution of your Director, Prof. Rycroft, in Washington recently, where his exhibits of South African proteas and other indigenous flowers at the world meeting prompted the Russian delegate to declare that this single exhibit had made his visit worthwhile. I therefore wish to take this opportunity to congratulate Prof. Rycroft on this great achievement, in addition to the many others that already stand to his credit."

We are most grateful to all members who contributed towards the success of our Show.

NEW GUIDE PUBLICATION

We are pleased to report that a new guide/brochure, with coloured illustrations, was completed and published at the end of November. The text of this brochure was written by Mrs. M. Schirach. This publication is on sale at the Botanical Society Office and at the Kirstenbosch Tea House.

We record our special thanks to Mr. J. Grobler and Miss S. Olivier, the Assistant Director and Administrative Officer of the National Botanic Gardens, for translating this brochure into Afrikaans.

MODEL OF KIRSTENBOSCH

Miss Diana Harvey of Constantia, was commissioned by this Section to make a model of Kirstenbosch in polyester foam, measuring approximately 8′ x 7′. This model which was completed at the end of the year, depicts the whole of Kirstenbosch up to Maclear's Beacon, showing streams, paths, plantations etc. and the cultivated area of Kirstenbosch is shown in detail. It is hoped to have the model permanently displayed in a building to which the public will have access.

ARTICLE ON HAKEA

Mr. E. G. H. Oliver, of the Botanical Research Institute, Department of Agricultural Technical Services at Stellenbosch, published an article on *Hakea* in the March issue of Mobil Farmer. Copies of this article were re-printed for distribution by the Botanical Society and we record our sincere appreciation to Mobil Oil Company for their generosity in reprinting the article.

OFFICE BEARERS

The following members were elected to this Committee:

Mr. D. Heesom,
Mrs. A. MacKenzie,
Mr. W. J. Middelmann,
Mr. C. Sampson,
Prof. H. B. Rycroft,
Mr. G. J. E. Matthaei.
Miss M. E. Johns,
Mr. E. G. H. Oliver,
Mr. F. C. Sawkins,
Mrs. C. Sampson,
Mr. D. Woods

Prof. Rycroft was re-elected Chairman at the first meeting of this Committee.

THANKS

We are grateful to all who have served on this Committee during the past year and we are especially indebted to Mr. A. J. M. Middlemost and Mr. J. Minnitt for their valued help in connection with show preparations. We extend our thanks also to all the Judges, and stewards, for their assistance; to Miss W. F. Barker, Curator of the Compton Herbarium and to her staff for naming the specimens exhibited at the Show. We are grateful also to Dr. G. J. Lewis for her valued help.

The Cape Provincial Administration, the Daily Press and S.A.B.C. are thanked for their kind co-operation.

Professor H. B. Rycroft, *Chairman*
Miss J. Harvey, *Secretary/Treasurer.*

Report on Activities of Transvaal Branch of the Botanical Society of S.A.

DURING 1966

During 1966, the Transvaal Branch kept active, as planned by the committee, and the usual 5 lectures were held covering a good range of interesting topics given by prominent lecturers who attracted good attendances, often with 150 members attending.

These were as follows:

8 *February* — Speaker: Mr. Frank Bradlow on "Baron von Ludwig and the Ludwigsburg Garden", with slides, held at the Geology Block of the Witwatersrand University.

8 *March* — Speaker: Professor R. H. Compton on the Flora of Swaziland, with slides, held at the Harveian Lecture theatre at Medical School.

19 *April* — Speaker: Dr. A. O. D. Mogg on the genus *Acacia* and his travels in Mozambique, held at the Dorothy Susskind Auditorium, University of the Witwatersrand.

9 *August* — Speaker: Mrs. L. E. Davidson on the Spring flowers of the Transvaal Highveld, at the Dorothy Susskind Auditorium.

8 *November* — Annual General Meeting at the Dorothy Susskind Auditorium. Speaker: Mrs. S. Eliovson on the Botanic Gardens of America and Japan.

The committee has been investigating the possibility of creating a nature reserve at Mondeor south of Johannesburg, and the establishment of a Botanic Garden in the city. As this would be concerned with both exotic and indigenous flora, it was decided that this must not be the work of the Botanical Society, but that a special committee must be formed to deal with the project. Accordingly, a new Botanic Garden Society of Johannesburg was formed on 21st November, 1966, to take over the aims first set out by the committee of the Transvaal Branch of the Botanical Society of South Africa.

MRS. S. ELIOVSON, *Chairman.*
MRS. L. VAN DER MERWE,
Hon. Secretary.

SPECIAL THANKS

We are extremely grateful to the Mobil Oil Company for their kind generosity in sponsoring our 1966 gratis parking discs.

INCOME AND EXPENDITURE FOR THE TWELVE MONTHS ENDED 31st DECEMBER 1966

	R c
General Administration Expenses	930.19
Audit Fees 1966	150.00
Honorarium to Secretary-Treasurer	2,219.51
Bank Charges	134.14
Stationery and Printing	889.19
Expenses: Transvaal and Harrismith Branches	441.20
Contributions to Pension Fund	120.00
Uniforms and Badges	205.50
Depreciation—Addressograph	22.25
Depreciation—Adding Machine	5.90
Depreciation—Typewriter	3.00
Surplus for the year	10,419.73
	R15,540.61

	R c	R c
Subscriptions		13,733.35
Family Members	3,333.11	
Ordinary Members	8,873.89	
Associate Members	666.80	
Corporate Members	859.55	
Donations		711.50
Interest on Investments		964.76
Journal Advertisements Recovered		131.00
		R15,540.61

We have to report that we have examined the above Balance Sheet as at 31st December, 1966, with the books and vouchers of the Society, and have obtained all the information and explanations we have required. We are satisfied that the securities are in existence, and that the Society has kept proper books and accounts.

We are of opinion that such Balance Sheet is properly drawn up so as to exhibit a true and fair view of the state of the Society's affairs at the date thereof, according to the best of our knowledge and the explanations given to us, and as shown by the books of the Society.

CAPE TOWN.
28*th February*, 1967.

R. M. JOUBERT & CO.
Chartered Accountants (S.A.) *Auditors*

THE BOTANICAL SOCIETY

BALANCE SHEET AS AT

		R c	R c
Life Membership Fund			14,960.43
Balance 1/1/1966		13,043.05	
Add: Amount received		1,917.38	
Reserve Fund			800.00
Mrs. W. Hall Memorial Fund			191.75
Lecture Hall Fund			57.26
National Botanical Gardens			10,419.73
			26,429.17
Wild Flower Protection Section			5,422.40
Balance 1/1/1966		6,020.56	
Subscriptions—Ordinary—received during 1966		1,327.82	
Grant from Provincial Administration		300.00	
Profit on Wild Flower Show		143.78	
Interest received during 1966		227.52	
		8,019.68	
Less: 5% of 1966 Subscriptions credited to General Administration Expenses	66.39		
Salaries	582.80		
Stationery, Postages, Travelling Expenses, Insurances etc.	1,034.39		
Uniforms	44.00		
Fees for Guide	60.00		
Making Model of Kirstenbosch	750.00		
Depreciation of Equipment at 10% p.a.	59.70		
		2,597.28	
			R31,851.57

OF SOUTH AFRICA

31st DECEMBER, 1966

		R c	R c
Investments			
Cape of Good Hope Savings Bank			2,744.82
Savings Account No. 52773 @ 4½% p.a.			
Post Office Savings Bank			241.67
Savings Account No. 5803 @ 3½% p.a.			
United Building Society			5,284.47
Savings Account No. 536 @ 3½% p.a.			
S.A. Permanent Building Society			1,485.25
Fixed Deposit No. 77868 @ 5½% p.a.			
Trust Bank of Africa Ltd.			3,551.23
Savings Account No. 24112 @ 5% p.a.		468.73	
Fixed Deposit No. 6583 with accrued interest @ 5½% p.a.		2,055.00	
Fixed Deposit No. 13769 with accrued interest @ 5½% p.a.		1,027.50	
Standard Bank of S.A. Ltd.			4,560.11
Fixed Deposit No. 68/106 @ 5½% p.a.		800.00	
Fixed Deposit No. 68/105 @ 5½% p.a.		2,760.11	
Savings Account @ 3½% p.a.		1,000.00	
Saambou			6,800.00
Indefinite period Paid-up Shares		4,000.00	
Savings Account @ 4% p.a.		2,800.00	
Cash			1,481.02
Current Account with Standard Bank of S.A. Limited		541.35	
On hand		70.91	
Wild Flower Protection Section		1,018.76	
		1,631.02	
Less: Liabilities		150.00	
Addressograph			200.50
Balance 1/1/1966		222.75	
Less: Depreciation written off		22.25	
Adding Machine			53.10
Balance 1/1/1966		59.00	
Less: Depreciation written off		5.90	
Typewriter			27.00
Cost		30.00	
Less: Depreciation written off		3.00	
			R26,429.17
Wild Flower Protection Section			5,422.40
Investments			
Trust Bank of Africa Ltd.			
Savings Account No. 34077 @ 5% p.a.		3,403.98	
Fixed Deposit No. 11444 with accrued interest @ 6% p.a.		515.00	
Fixed Deposit No. 9823 with accrued interest @ 5½% p.a.		963.24	
Standard Bank of S.A. Ltd.—Savings Account @ 3½% p.a.		1,000.00	
Cash			
On Hand		20.94	
Equipment		538.00	
Balance 1/1/1966	453.60		
Additions at cost	144.10		
	597.70		
Less: Depreciation written off	59.70		
		6,441.16	
Less: Amount due to General Account		1,018.76	
			R31,851.57

PUBLICATIONS ON SALE AT KIRSTENBOSCH

The following may be obtained by application, enclosing payment, to the Secretary, The Botanical Society of South Africa, Kirstenbosch, Newlands, C.P., South Africa. Prices include postage.

'The Species of Oxalis occurring in the Cape Peninsula and how to distinguish them'; T. M. Slater	10c
'General Hints on Raising Indigenous Plants from Seed'; H. F. Werner	10c
'South African Proteaceae and their Cultivation'; H. F. Werner	10c
'Progress in the Study of the Silver Tree Disease'; D. Olivier	10c
'Pelargonium—A South African Contribution to World Gardens'; F. M. Leighton	10c
'The Propagation of Succulents from Seeds and Cuttings'; H. Hall	10c
'Growing Proteaceae in the Summer-rainfall Area'; M. M. Vogts	10c
'Seaweeds'; W. E. Isaac	10c
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'Plant Names and their Origin'; M. R. Levyns	10c
'Propagation and Cultivation of Proteas and Heaths'; H. F. Werner	10c
'Suid-Afrikaanse Proteaceae en hul Teelt'; H. F. Werner	10c
'Plants of Land and Sea'; W. E. Isaac	10c
'Growing Cape Bulbs in the Summer Rainfall Area'; Sima Eliovson	10c
'Algemene Wenke oor die Kweek van Inheemse Plante van Saad'; H. F. Werner	10c
'Notes on some rare Stapelias from Namaqualand'; H. Hall	10c
'Birds of the National Botanic Gardens of South Africa'; Dr. G. J. Broekhuysen	10c
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'The Cultivation of the Proteaceae'; Marie M. Vogts	10c
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THE BOTANICAL SOCIETY OF SOUTH AFRICA

OBJECTS:

1. The promotion of the interests of the National Botanic Gardens of South Africa established under the Trustees of the National Botanic Gardens of South Africa.
2. The preservation of the native flora of South Africa. The Society therefore endeavours:
   (*a*) To encourage the people of South Africa and other countries in the progress and development of the National Botanic Gardens of South Africa at Kirstenbosch, and any other Garden that may be established by the Trustees of the said National Botanic Gardens of South Africa.
   (*b*) To augment the Government and other grants towards developing, improving and maintaining the National Botanic Gardens of South Africa at Kirstenbosch and any Garden referred to in the preceding subsection.
   (*c*) To organize shows at which may be displayed the results of botanical experiments of cultural skill in improving the different varieties of South African flora.
   (*d*) To enlighten and instruct on botanical subjects by means of meetings, lectures and conferences and by the distribution of literature.
   (*e*) To promote the preservation of the native flora of South Africa, to encourage public interest in it, and to co-operate with the Public Authorities and others in the attainment of this object.

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Associate Members enjoy all the privileges of Membership, except that they do not vote at any of the Societys' Meetings and are not entitled to share in the free distribution of seed.

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All members except associate members have the privilege of sharing in the free distribution of surplus seeds from Kirstenbosch and Worcester, on application to the Director of the Gardens. The Journal of the Botanical Society, published annually, is sent free to every member. The Journal of South African Botany can be purchased by Members at reduced rates.

Members who wish to support the Wild Flower Protection Section of the Society may give an annual subscription of 75c per annum in addition to the subscription for the class to which they belong. Those wishing to become Members of the Society are invited to communicate with the Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, C.P.

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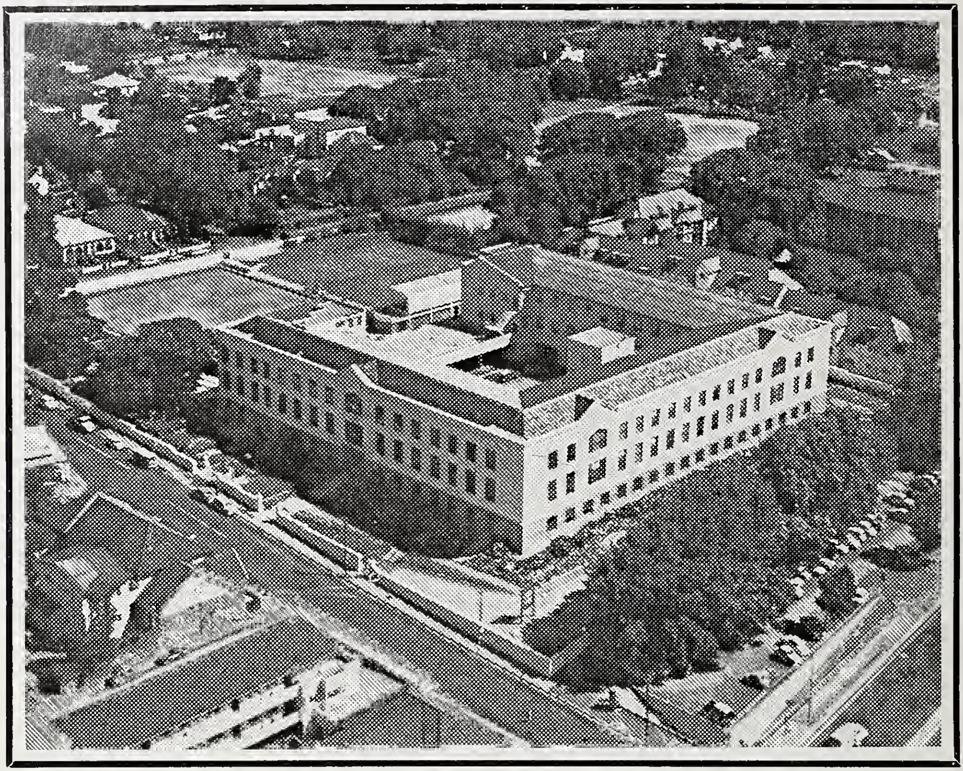

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PART 54, 1968

DEEL 54, 1968

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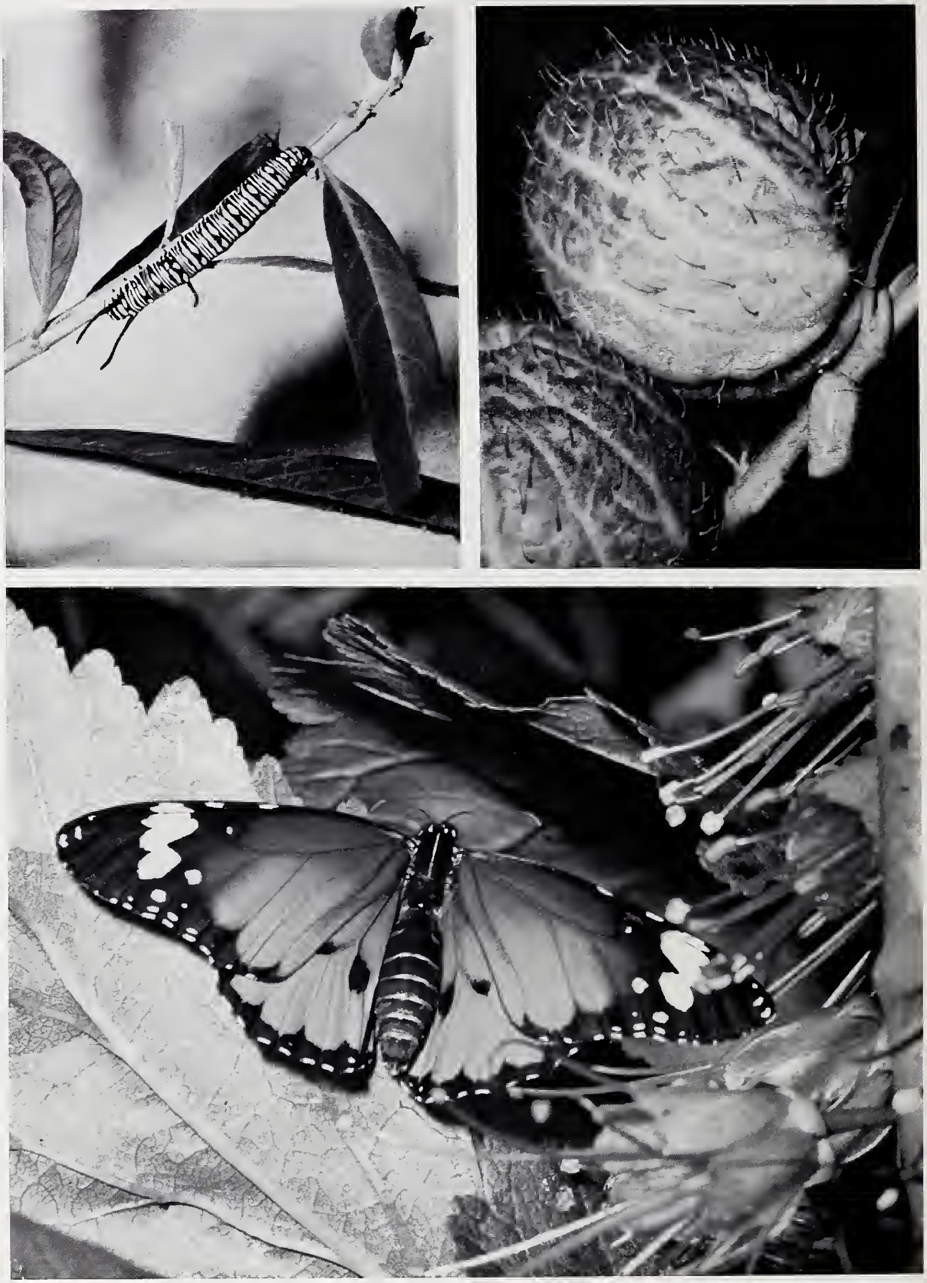

PHOTOGRAPHER: *Mr. Dudley R. D'Ewes*

Three stages in life of the African Monarch Butterfly, Danaus chrysippus.

Above, left, the caterpillar feeding on Asclepias leaves; right, the pupa attached to an Asclepias fruit; below, the adult butterfly (see accompanying article "Growing a Plant to Catch a Butterfly," on Page 17).

JOURNAL *of the Botanical Society of South Africa*
JAARBLAD *van die Botaniese Vereniging van Suid-Afrika*

PART/DEEL 54, 1968

Editor:
H. B. RYCROFT,
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(STELL.), PH.D. (CAPE TOWN),
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P.A. (S.A.),
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Kirstenbosch,
Harold Pearson-Professor of Botany
in the University of Cape Town.

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P.A. (S.A.),
Direkteur van die Nasionale
Botaniese Tuine van Suid-Afrika,
Kirstenbosch,
Harold Pearson-professor in
Plantkunde aan die Universiteit
van Kaapstad.

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Cover/Omslag:

Leucadendron Argenteum (Silvertree)
Inflorescence: *Above:* Female
Below: Male
Photograph/Foto: Prof. H. B. Rycroft

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News and Notes

DEDICATION

Volume 34 (1968) of the Journal of South African Botany is dedicated to Dr. M. R. Levyns, who was a lecturer in Botany at the University of Cape Town for nearly 30 years.

Dr. Levyns is well known as an outstanding research worker and author of scientific publications, many of which have appeared in the Journal from time to time, including her Monograph on the Genus *Muraltia.*

NEW VICE-PRESIDENT OF THE SOCIETY

Dr. Levyns was elected as one of the Botanical Society's Vice-Presidents at the Annual General Meeting held in March, 1968.

Dr. Levyns served on the Council of the Botanical Society in previous years and we are indeed grateful to have such a worthy and well-known personality presiding over our affairs.

MEMORIAL TO CAPE BOTANIST

In February this year the tombstone of Dr. Carl Pappe, the leading Cape botanist of the 19th century, was erected as a monument at Kirstenbosch where his valuable herbarium is housed on permanent loan from the S.A. Museum Herbarium. The chipped and neglected tombstone has been restored and set into an inner wall at the Compton Herbarium where it stands as a reminder of the first Colonial Botanist to be appointed for South Africa.

We are indebted to Mr. R. R. Langham-Carter who discovered the old tombstone and who brought it to the attention of the National Botanic Gradens of South Africa through the Information Officer, Mrs. E. du Plessis.

BOTANIST HONOURED

One of South Africa's most eminent flora taxonomists, Inez Verdoorn, of the Botanical Institute in Pretoria, was honoured in 1967. She was awarded an honorary D.Sc. by the University of Natal in recognition of her work.

Dr. Verdoorn has devoted more than 50 years to the classification of South African flora and has published many scientific articles on the subject.

Nuusbrokkies

OPDRAG

Deel 34 (1968) van die Tydskrif vir Suid-Afrikaanse Plantkunde word opgedra aan dr. M. R. Levyns, wat byna 30 jaar lank 'n lektrise in Plantkunde aan die Universiteit van Kaapstad was.

Dr. Levyns is welbekend as 'n uitnemende navorsingswerkster en skryfster van wetenskaplike publikasies, waarvan baie van tyd tot tyd in die Tydskrif verskyn het, insluitend haar Monografie oor die Genus *Muraltia.*

NUWE ONDERPRESIDENTE VAN DIE VERENIGING

Dr. Levyns is op die Jaarvergadering wat in Maart 1968 gehou is, tot een van die Botaniese Vereniging se Visepresidente verkies.

Dr. Levyns het in vorige jare in die Raad van die Botaniese Vereniging gedien en ons is inderdaad dankbaar dat so 'n waardige en welbekende persoonlikheid ons sake bestuur.

GEDENKTEKEN VIR KAAPSE PLANTKUNDIGE

In Februarie vanjaar, is die grafsteen van dr. Carl Pappe, 'n vooraanstaande Kaapse plantkundige in die 19de eeu as 'n monument te Kirstenbosch opgerig waar sy waardevolle herbarium as 'n permanente lening van die S.A. Museum-herbarium gehuisves word. Die afgesplinterde en verwaarloosde grafsteen is gerestoureer en in 'n binnemuur by die Compton-herbarium aangebring waar dit staan as 'n herinnering aan die eerste Koloniale Plantkundige wat vir Suid-Afrika aangestel is.

Ons is dank aan mnr. R. R. Langham-Carter verskulldig wat die ou grafsteen ontdek en dit onder die aandag van die Nasionale Botaniese Tuine van Suid-Afrika deur die Inligtingsbeampte, mev. E. du Plessis, gebring het.

PLANTKUNDIGE VEREER

Een van Suid-Afrika se mees vooraanstaande plantkunde-taksonome, Inez Verdoorn, van die Botaniese Instituut in Pretoria, is in 1967 vereer. 'n Ere-doktorsgraad in die Wetenskap is ter erkenning van haar werk deur die Universiteit van Natal aan haar toegeken.

Dr. Verdoorn het meer as 50 jaar aan die indeling van Suid-Afrikaanse plantegroei gewy en sy het etlike wetenskaplike artikels oor die onderwerp gepubliseer.

GUEST HOUSE FOR VISITING BOTANISTS

On 9th February the corner stone of a Guest Cottage was laid at Kirstenbosch by Miss Maud Bower of Somerset West. The main purpose of this cottage is to provide accommodation for visiting scientists from various parts of the world.

In addition, it is planned to lay out round the house a model demonstration garden, the size of a normal suburban plot. This will be planted with indigenous plants and regular demonstrations will be organised.

Once more Kirstenbosch has proved that it has many friends and it is most gratifying to see how many interested people have, by their generous co-operation, made it possible for this dream to have become a reality.

ASSISTANT CURATOR

In July 1967, the new Assistant Curator of Kirstenbosch, Mr. John Winter, commenced duties in the Gardens.

Mr. Winter, who was born in Cape Town, grew up in Rhodesia, where he attended the Milton High School in Bulawayo. He received his horticultural training first in Pretoria and, later, at the Royal Botanic Gardens, Kew. His horticultural experience is wide, embracing not only that gained in the cultivation of beautiful plants and displaying them to the best advantage, but also in those interesting tasks that fall to a floral decorator on a large ship such as R.M.S. Queen Elizabeth.

Kirstenbosch is indeed fortunate in having secured the services of this knowledgeable, energetic and artistic young horticulturist and it is to be sincerely hoped that he will find his interest in the Gardens expanding and deepening for many years to come to mutual benefit.

NEW CURATOR OF HAROLD PORTER BOTANIC RESERVE

After having been without a Curator for so long the Harold Porter Botanic Reserve at Betty's Bay welcomes the advent of the new incumbent, Mr. W. C. Ebersohn, who took up his position at the beginning of November, 1967. He was formerly with the Parks Department of East London. He certainly has the good wishes of all lovers of the beautiful reserve which became part of the National Botanic Gardens of South Africa through the generosity of the late Harold Porter.

ADDITIONS TO STAFF

Miss Margaret Mathews, a B.Sc. graduate of the University of Cape Town, joined the staff of the Compton Herbarium at Kirstenbosch on the 1st February, 1968, as a Botanical Assistant. She is a welcome addition to the small band of "back room boys" who work hard, albeit unobtrusively, at the tasks which are so essential for progress in science. The Herbarium staff was further augmented, though for only three months, by the inclusion of Miss Marg-

GASTEHUIS VIR BESOEKENDE PLANTKUNDIGES

Op 9 Februarie is die hoeksteen van 'n Gastehuis te Kirstenbosch deur mej. Maud Bower van Somerset-Wes gelê. Die hoofdoel van hierdie huisie is om huisvesting aan besoekende wetenskaplikes uit verskillende dele van die wêreld te verskaf.

Boonop bestaan die voorneme om rondom die huis 'n model-demonstrasietuin, so groot soos 'n gewone voorstedelike perseel, uit te lê. Dit sal met inheemse plante beplant en gereelde demonstrasies sal gereël word.

Weereens het Kirstenbosch bewys dat hy baie vriende het en dit is bemoedigend om te sien hoe veel belangstellende persone, deur hul milde samewerking, dit moontlik gemaak het dat hierdie droom 'n werklikheid kon word.

ASSISTENT-KURATOR

In Julie 1967, het die nuwe Assistent-kurator van Kirstenbosch, mnr. John Winter, in die Tuine pligte aanvaar. Mnr. Winter, wat in Kaapstad gebore is, het in Rhodesië grootgeword waar hy die Hoërskool Milton in Boelawajo bygewoon het. Hy het sy tuinboukundige opleiding eers in Pretoria en daarna aan die Royal Botanic Gardens, Kew ontvang. Sy tuinboukundige ondervinding is omvattend en behels nie alleen dié wat opgedoen is met die kweek van pragtige plante en hulle tot die beste voordeel te vertoon nie, maar ook daardie interessante take wat 'n blomversierder te beurt val op 'n groot skip soos die K.P.B. Queen Elizabeth.

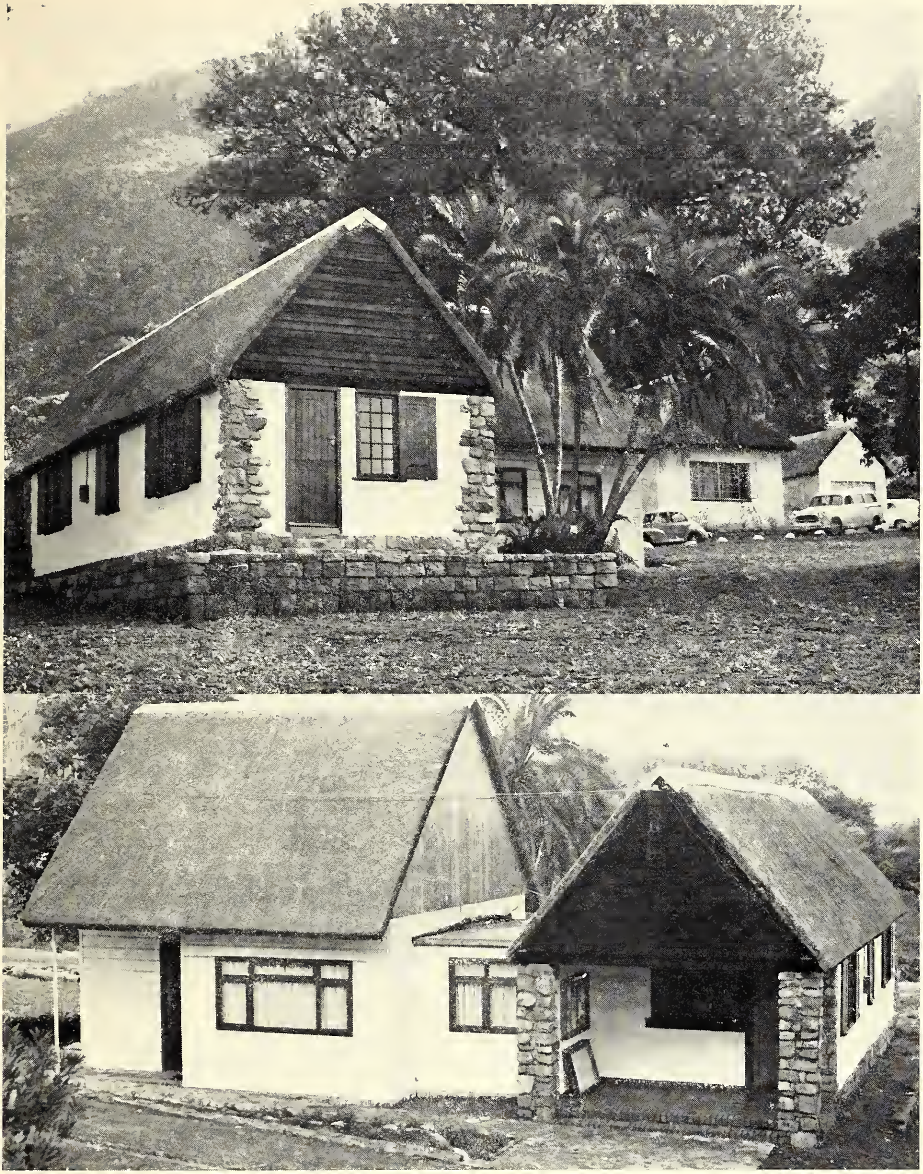
Kirstenbosch is beslis gelukkig dat hy die dienste kon verkry van hierdie ingeligte, energieke en kunssinnige jong tuinboukundige en daar word van harte vertrou dat hy baie jare lank sy belangstelling in die Tuin tot onderlinge voordeel sal uitbrei en verdiep.

NUWE KURATOR VAN BOTANIESE RESERVAAT HAROLD PORTER

Nadat dit vir so lank sonder 'n Kurator was, heet die Botaniese Reservaat Harold Porter te Bettysbaai die nuwe bekleër van die pos, mnr. W. C. Ebersohn welkom; hy het die betrekking aan die begin van November 1967 aanvaar. Voorheen was hy verbonde aan die Departement Parke van Oos-Londen. Die goeie wense van alle liefhebbers van die pragtige reservaat wat deel van die Nasionale Botaniese Tuine van Suid-Afrika deur die milddadigheid van wyle Harold Porter geword het, gaan beslis na hom uit.

TOEVOEGINGS TOT PERSONEEL

Mej. Margaret Mathews, wat in besit is van die graad B.Sc. van die Universiteit Kaapstad, het haar op 1 Februarie 1968, as 'n botaniese assistent by die personeel van die Compton-herbarium te Kirstenbosch aangesluit. Sy is 'n welkome toevoeging tot die klein groep ,,stille werkers" wat hard, alhoewel onopsigtig, aan die take werk wat so noodsaaklik is vir vooruitgang in die wetenskap. Die Herbarium-



The Botanical Society of South Africa enlarged offices at Kirstenbosch. Front and rear views.

PHOTOGRAPHER: *Mr. Colin Beazley.*

aret van der Riet, a Stellenbosch University B.Sc. graduate, who unfortunately decided to move on to other work at the end of April, 1968.

Mr. C. N. de Cerff was appointed to the post of Gate-keeper in July, 1967 and is rendering yeoman service in that most important position.

KIRSTENBOSCH SCHOLAR

The second recipient of the Kirstenbosch Horticultural Scholarship is Mr. Peter Hattingh of the Durban Parks and Gardens Department. He also spent a year at Longwood Gardens as Foreign student.

Mr. Hattingh has taken over the Succulents Section which was so ably controlled by Mr. Harry Hall for many years and he should gain valuable experience among these typically South African plants.

It is hoped that Mr. Hattingh will obtain a wide knowledge of the Cape flora in addition to gaining experience in the cultivation of the many species he will find at Kirstenbosch, Karoo Gardens and Betty's Bay.

OVERSEAS LEAVE

Miss W. F. Barker, Curator of the Compton Herbarium, was away on Overseas Study Leave from the end of April to August, 1967. For six weeks she worked at Kew, making good use of the material and facilities for study there and visiting the herbarium of the British Museum (Natural History) as well. During the remainder of her stay overseas she visited Herbaria in Holland, Sweden, Denmark and Switzerland, examining large collections of specimens and herbarium sheets.

Mr. J. P. Rourke, Botanical Assistant at the Compton Herbarium undertook to run the Herbarium in the Curator's absence and managed to do this most successfully.

In April, 1968, Mr. Rourke himself left on three months' overseas study leave. He is to be congratulated on having recently been awarded the Smuts Memorial Fellowship, which will assist him in carrying out the scientific research in Europe which he feels is essential to his botanical work. Letters received from him indicate that he is working long hours to get through all he wants to do but at the same time he appears to be enjoying his European contacts and has been particularly impressed with the Spring show of flowers everywhere.

HONOUR FOR PROF. R. H. COMPTON

Prof. R. H. Compton of Mbabane, Swaziland, formerly Director of The National Botanic Gardens, Kirstenbosch, will receive an Honorary Doctorate of Science Degree during August at the University of Cape Town.

personeel is verder uitgebrei, alhoewel slegs vir drie maande, deur die insluiting van mej. Margaret van der Riet, in besit van die graad B.Sc. van die Universiteit Stellenbosch, wat ongelukkig besluit het om teen die einde van April 1968 ander werk te aanvaar.

In Julie 1967, is mnr. C. N. de Cerff in die pos Hekbewaarder aangestel en hy verleen kragtige steun in daardie uiters belangrike pos.

KIRSTENBOSCH-BEURSHOUER

Die tweede houer van die Tuinboukundige Beurs van Kirstenbosch is mnr. Peter Hattingh van die Departement Parke en Tuine, Durban. Hy het ook 'n jaar by Longwood Gardens as 'n buitelandse student deurgebring.

Mnr. Hattingh het die Afdeling Vetplante oorgeneem, wat jare lank so bekwaam deur mnr. Harry Hall behartig is en hy behoort waardevolle ondervinding met hierdie tipies Suid-Afrikaanse plante op te doen.

Daar word vertrou dat mnr. Hattingh uitgebreide kennis van die Kaapse plantegroei sal opdoen, behalwe om ervaring op te doen met die kweek van die baie soorte wat hy te Kirstenbosch, die Karootuin en Bettysbaai sal aantref.

OORSESE VERLOF

Mej. W. F. Barker, Kuratrise van die Compton-herbarium, was van April tot Augustus 1967 met oorsese studieverlof afwesig. Ses weke lank het sy by Kew gewerk en goeie gebruik gemaak van die stof en geriewe vir studie aldaar en ook die herbarium van die Britse Museum (dier- en plantkunde). Gedurende haar verblyf oorsee het sy Herbaria in Holland, Swede, Denemarke en Switseriand besoek en 'n groot versameling eksemplare en herbarium soorte ondersoek.

Mnr. J. P. Rourke, plantkundige assistent by die Compton-herbarium, het onderneem om die herbarium in die afwesigheid van die Kuratrise te bestuur en daarin geslaag om dit baie suksesvol te doen.

In April 1968, het mnr. Rourke self met drie maande oorsese studieverlof vertrek. Hy moet gelukgewens word met die onlangse toekenning van die Smuts-gedenkbeurs wat hom sal help om wetenskaplike navorsing in Europa uit te doen wat hy voel noodsaaklik is vir sy plantkundige werk.

Briewe wat van hom ontvang is, dui daarop dat hy lang ure werk om alles te doen wat hy wil, maar terselfdertyd wil dit voorkom of hy sy kontakte in Europa geniet en hy is veral deur die Lente-vetroon van blomme oral beïndruk.

EER VIR PROF. R. H. COMPTON

Prof. R. H. Compton van Mbabane, Swaziland, voorheen Direkteur van Die Nasionale Botaniese Tuin, Kirstenbosch, sal gedurende Augustus 'n ere-doktorsgraad in die Wetenskap aan die Universiteit Kaapstad ontvang.

THE ROYAL HORTICULTURAL SOCIETY'S GOLD MEDAL AWARDED TO MR E. G. H. OLIVER

The Gold Medal, which is the highest award of the Society, was presented to Mr. Oliver on 6th February, 1968, at the Spring show of the Society in London, for an exhibit of original paintings used in the book *Ericas in Southern Africa*, of which he was joint author. Mr. Oliver is the Scientific Liaison Officer for the South African Government at the Royal Botanic Gardens, Kew.

XI INTERNATIONAL BOTANICAL CONGRESS

The XI International Botanical Congress will be held from August 24th to September 2nd 1969, at the University of Washington in Seattle, U.S.A. This Congress is being organized under the auspices of the Plant Science Societies of the United States, the American Institute of Biological Sciences and the National Academy of Sciences—National Research Council.

In a brochure giving information about this Congress, Seattle has been described as being "surrounded by an abundance of natural beauty". "The city is situated between Puget Sound and Lake Washington with full views of the Olympic Mountain Range to the West and of the Cascade Mountain Range to the East. The Cascade Range contains Mount Rainier, an extinct volcano with an elevation of 14,410 feet, one of the highest mountains in the United States."

Full information and registration forms may be obtained direct from the Secretary, whose address is given below:

Dr. Richard S. Cowan, Secretary,
XI International Botanical Congress,
Smithsonian Institution,
Washington, D.C. 20560, U.S.A.

THE FLORA OF SWAZILAND

Professor R. H. Compton is presently writing a book on the flora of Swaziland which he intends should be of more general use in the territory than the "Annotated Check List" which was published by Kirstenbosch in 1966.

Professor Compton writes: "I am aiming at producing a book which will be useful in the schools, colleges and departments in Swaziland in the future, as well as to private people interested in the local plants and technicalities will be kept to the minimum."

Referring to the progress he is making on this publication, Professor Compton mentions "when the Botanical Survey of Swaziland ended officially (that is, through cessation of overseas' subsidy), the special herbarium building was taken over by another department, but the Agricultural Department took pity on me and gave me a good-sized room in which to house my collections and I have been able to go on with my work on a voluntary basis."

DIE ROYAL HORTICULTURAL SOCIETY SE GOUE MEDALJE TOEGEKEN AAN MNR. E. G. H. OLIVER

Die Goue Medalje wat die hoogste toekenning van die Genootskap is, is op 6 Februarie 1968, op die Lente-tentoonstelling van die Genootskap in Londen aan mnr. Oliver aangebied, vir 'n uitstalling van oorspronklike skilderye wat gebruik is in die boek *Ericas in Southern Africa*, waarvan hy die medeskrywer was. Mnr. Oliver is die Wetenskaplike Skakelbeampte vir die Suid-Afrikaanse Regering aan die Royal Botanic Gardens, Kew.

XI INTERNASIONALE BOTANIESE KONGRES

Die XI Internasionale Botaniese Kongres sal van 24 Augustus tot 2 September 1969, aan die Universiteit van Washington in Seattle, V.S.A., gehou word. Hierdie Kongres word gereël onder beskerming van die Plantwetenskapgenootskappe van die Verenigde State, die Amerikaanse Instituut van Biologiese Wetenskappe en die Nasionale Akademie van Wetenskappe—Nasionale Navorsingsraad.

In 'n brosjure wat inligting oor hierdie Kongres verstrek, is Seattle beskryf as synde „omring van 'n oorvloed van natuurlike prag". „Die stad is geleë tussen Puget Sound en Washington-meer met 'n ononderbroke uitsig op die Olympic-bergreeks aan die westekant en op die Cascade-bergreeks aan die oostekant. In die Cascade-reeks is Mount Rainier, 'n uitgewerkte vulkaan met 'n hoogte van 14,410 voet, een van die hoogste berge in die Verenigde State."

Volledige inligting en registrasievorms is regstreeks van die Sekretaris verkrygbaar, wie se adres hieronder verstrek word:

Dr. Richard S. Cowan, Sekretaris,
XI International Botanical Congress,
Smithsonian Institution,
Washington, D.C. 20560, U.S.A.

DIE PLANTEGROEI VAN SWAZILAND

Professor R. H. Compton skryf tans 'n boek oor die plantegroei van Swaziland, wat hy hoop meer algemeen in die gebied gebruik sal word as die „Annotated Check List" wat in 1966 deur Kirstenbosch gepubliseer is.

Professor Compton skryf: „Ek stel dit my ten doel om 'n boek die lig te laat sien wat in die toekoms nuttig sal wees in die skole, kolleges en departemente in Swaziland, sowel as vir private mense wat belangstel in die plaaslike plante, en tegniese uitdrukkings sal tot 'n minimum beperk wees."

Met verwysing na die vooruitgang wat hy met hierdie publikasie maak, meld professor Compton „toe die Botanise Opname van Swaziland amptelik ten einde geloop het (d.w.s. deur die staking van die oorsese subsidie), is die spesiale herbariumgebou deur 'n ander departement oorgeneem, maar die Departement van Landbou het hom oor my ontferm en my 'n groterige kamer gegee waarin my versamelings gehuisves kon word en was ek in staat om op 'n vrywillige grondslag met my werk voort te gaan."

APPRECIATION—MRS. ANNE MACKENZIE

The Council of the Botanical Society of S.A. expressed their warm appreciation to Mrs. Anne MacKenzie at a small informal ceremony held in January. Mrs. MacKenzie has, for a number of years, given valuable assistance in the Botanical Society's office in an entirely voluntary capacity. As a small token of gratitude, Mrs. MacKenzie was presented with a collector's copy of the recently published *Ericas in Southern Africa.*

SYMPATHY

Our heartfeld sympathy is extended to Mrs. Marie M. Vogts of Betty's Bay, whose husband and sister-in-law were tragically killed in a motor-car accident earlier in the year.

WILD FLOWERS OF THE NATAL DRAKENSBERG

Mr. W. R. Trauseld, Senior Ranger at Giant's Castle Game Reserve, Estcourt, Natal, writes that he is hoping to publish a book in the near future on the wild flowers of the Natal Drakensberg.

Over a number of years, while making a collection of the plants in this area for the Botanical Research Institute, Pretoria, Mr. Trauseld has taken approximately 1,400 colour photographs which have been made into slides, representing about 700 species of the Drakensberg flora. There are two photographs of each species, one of the plant "in situ" and the other a close-up of the flower.

HARRY BOLUS AWARD TO COL. H. A. BAKER

At an informal ceremony held in the Director's Office, National Botanic Gardens, Kirstenbosch, on 14th December, 1967, Col. H. A. Baker of Kenilworth, Cape, was awarded the Harry Bolus Medal for his distinguished services to botany. This is an award made by the Botanical Society to an amateur (non-professional) botanist who has given the most outstanding services to botany.

Col. Baker is joint author of the recent publication *Ericas in Southern Africa.*

ENLARGED OFFICE FOR BOTANICAL SOCIETY

Extensions to the Society's headquarters at Kirstenbosch have recently been completed and members and visitors will now enjoy the spacious comfort of a reception room. A cordial invitation to visit the Secretary and her staff is extended to all our friends.

REVISED CONSTITUTION

Following a decision taken at the Society's Annual General Meeting held in March, 1967, certain major alterations affecting membership subscriptions were made to the Constitution. Copies of this revised Constitution were recently circularised to all members.

WAARDERING—MEV. ANNE MACKENZIE

Die Raad van die Botaniese Vereniging van S.A. het uitdrukking gegee aan sy innige waardering aan mev. Anne MacKenzie op 'n klein informele plegtigheid wat in Januarie gehou is. 'n Aantal jare lank reeds verleen mev. MacKenzie waardevolle hulp in die Botaniese Vereniging se kantoor in 'n heeltemal vrywillige hoedanigheid. As geringe blyk van dankbaarheid, is aan mev. MacKenzie 'n versamelaar se eksemplaar van die onlangse publikasie „Ericas in Southern Africa" aangebied.

MEEGEVOEL

Ons innige meegevoel gaan uit na mev. Marie M. Vogts van Bettysbaai wie se man en skoonsuster vroeër vanjaar op tragicse wyse in 'n motorongeluk omgekom het.

VELDBLOMME VAN DIE NATALSE DRAKENSBERG

Mnr. W. R. Trauseld, Senior Veldwagter by Giant's Castle se Wildreservaat, Estcourt, Natal, skryf dat hy hoop om in die nabye toekoms 'n boek oor die veldblomme van die Natalse Drakensberg uit te gee.

Oor 'n aantal jare, onderwyl hy plante in hierdie gebied vir die Botaniese Navorsingsinstituut, Pretoria versamel het, het mnr. Trauseld ongeveer 1,400 kleurfoto's geneem wat tot skyfies verwerk is en ongeveer 700 van die Drakensbergse plantsoorte verteenwoordig. Daar is twee foto's van elke plantsoort, een van die plant in sy omgewing en die ander 'n vlakbyopname van die blom.

HARRY BOLUS-TOEKENNING AAN KOL. H. A. BAKER

By geleentheid van 'n informele plegtigheid wat op 14 Desember 1967 in die Direkteur se Kantoor, Nasionale Botaniese Tuin, Kirstenbosch, plaasgevind het, is aan kol. H. A. Baker van Kenilworth, Kaap die Harry Bolus-medalje toegeken vir sy uitnemende diens aan die plantkunde. Dit is 'n toekenning wat gedoen word deur die Botaniese Vereniging aan 'n amateur (nie-professionele) plantkundige, wat die uitmuntendste diens aan die plantkunde gelewer het.

Kol. Baker is die medewkrywer van die onlangse publikasie „Ericas in Southern Africa".

VERGROTE KANTOOR VIR DIE BOTANIESE VERENIGING

Uitbreidings aan die Vereniging se hoofkantoor te Kirstenbosch is onlangs voltooi en lede en besoekers sal nou die ruim gerief van 'n ontvangkamer geniet. 'n Hartlike uitnodiging word aan al ons vriende gerig om die Sekretaresse en haar personeel te besoek.

HERSIENE STATUTE

In opvolging van 'n besluit geneem op die Vereniging se Jaarvergadering gehou in Maart 1967, is sekere belangrike wysigings wat ledegeld raak, aan die Statute aangebring. Afskrifte van hierdie hersiene Statute is onlangs in 'n rondskrywe aan alle lede gestuur.

THE LATE DR. G. W. REYNOLDS' PLANT COLLECTION

Mention was made in our previous Journal that plans were being made to transfer Dr. Reynolds' plant collection from Mbabane, Swaziland to the Mlilwane Game Sanctuary. The late Dr. Reynolds' wife, Mrs. Kathleen Reynolds, has written describing the progress which has been made in this venture, as follows:

"A beautiful little natural history Museum has been erected at the Rest Camp site of Mlilwane Game Sanctuary. A section of this will include herbarium material. Gilbert's entire collection of plants surrounds this building, occupying some 5–7 acres on a well-drained slope with plenty of sunlight.

"Many plants which suffered from the mists and moisture of Mbabane have made a striking recovery at Mlilwane.

"Elizabeth" (Dr. Reynolds' daughter) "with Ted Reilly's able support, has transported, transplanted and added to this vast collection during the year. Re-identification of plants has been and still is, an enormous undertaking, since the move. A new system of labelling is also being devised. This has led to an earnest and continuous study of her father's Aloe books and extensive travel through the year. The ultimate aim is to have only indigenous flora and fauna in the Reserve as far as possible. Among the many indigenous trees that Ted has raised from seed in his own nursery is the Baobab. Some of these have attained a height of 12 ft. in three years.

"Mlilwane is a paradise for *Aloe bainesii* and our largest Cissus plant recovered from blight and flourished in a matter of months after the transplant.

"The move to Mlilwane has undoubtedly proved a great success and I'm so grateful that the work goes on."

VISITOR FROM JAPAN

During May of this year we had a flying visit from Messrs. T. Satake and Furugori of Japan.

Mr. Satake is a Patron of the Society and a lifelong and enthusiastic collector of Palms and Cycads which he grows in huge glasshouses at his home in Hiroshima. Mr. Satake, who is President of an Engineering Company, came to South Africa for a few days to photograph Encephalartos in the wild. With the kind co-operation of the Botanical Research Institute, Mr. Satake was taken by Mr. Wells of Grahamstown to see seven species. Mr. Satake speaks little English but Mr. Furugori acted as interpreter. They were both very enthusiastic about the collection of cycads at Kirstenbosch.

NEW MEMBERS FROM U.S.A.

We express our grateful thanks to Mr. W. J. Tijmens of Stellenbosch, for the useful publicity given to our

WYLE DR. G. W. REYNOLDS SE PLANTEVERSAMELING

In ons vorige Tydskrif is gemeld dat planne beraam word om dr. Reynolds se planteversameling van Mbabane, Swaziland na die Mlilwane-wildreservaat oor te plaas.

Wyle dr. Reynolds se vrou, mev. Kathleen Reynolds het soos volg in 'n skrywe die vordering wat met hierdie onderneming gemaak is, beskryf:—

,,'n Pragtige klein natuurstudie-museum is op die ruskampterrein van die Mlilwane-wildreservaat opgerig. 'n Deel hiervan sal herbariumstof insluit. Gilbert se hele planteversameling omring hierdie gebou en neem sowat 5–7 acres op 'n goed gedreineerde helling met volop sonlig, in beslag.

,,Baie plante wat onder die mis en vogtigheid van Mbabane gely het, het by Mlilwane 'n merkwaardige oplewing getoon.

,,Elizabeth (dr. Reynolds se dogter) het met Ted Reilly se bekwame steun gedurende die jaar hierdie reuse-versameling vervoer, oorgeplant en daaraan toegevoeg. Sedert daar met die verskuiwing begin is, was en is die heruitkenning van plante nog steeds 'n enorme onderneming. 'n Nuwe stelsel van etiketvoorsiening word ook beplan. Dit het gelei tot 'n ernstige en voortdurende studie van haar vader se boeke oor aalwyne en uitgebreide reise gedurende die jaar. Die uiteindelike doel is om so ver moontlik alleen inheemse plante en diere in die Reservaat te hê. Onder die vele inheemse bome wat Ted uit saad in sy eie kwekery gekweek het, is die krematartboom. Binne drie jaar het sommige 'n hoogte van 12 vt. bereik.

,,Mliwane is 'n paradys vir *Aloë bainesii* en ons grootste botterboom-plant het van skroeisiekte herstel en binne enkele maande na die oorplanting gedy.

,,Die verskuiwing na Mlilwane het ongetwyfeld 'n groot sukses geblyk en ek is so dankbaar dat daar met die werk voortgegaan word."

BESOEKER UIT JAPAN

Gedurende Mei vanjaar het ons 'n vlugtige besoek van mnre. T. Satake en Furugori van Japan ontvang.

Mnr. Satake is 'n Beskermheer van die Vereniging en 'n lewenslange en geesdriftige versamelaar van palmbome en sikadeë wat hy in groot broeikaste by sy huis te Hirosjima kweek. Mnr. Satake, wat Voorsitter is van 'n ingenieursmaatskappy het vir 'n paar dae na Suid-Afrika gekom om Encephalartos in hul natuurlike staat te fotografeer. Met die vriendelike medewerking van die Botaniese Navorsingsinstituut is mnr. Satake deur mnr. Wells van Grahamstad vergesel om sewe soorte te besigtig. Mnr. Satake praat min Engels, maar mnr. Furugori het as tolk opgetree. Hulle was albei baie geesdriftig oor die versameling sikadeë te Kirstenbosch.

NUWE LEDE UIT DIE V.S.A.

Graag betuig ons ons innige dank aan mnr. W. J. Tijmens van Stellenbosch vir die nuttige publisiteit

Society at various lectures he gave during his year of study at the Brooklyn Botanic Garden, New York. As a result of his efforts, we have welcomed many new members from the U.S.A. to our membership.

GERANIUM INCANUM

Proof of the lively interest taken in South African flora oversea was given during the latter part of 1967, when Mrs. Margaret Lawder, of Klein Drakenstein, Cape, wrote an article for an English journal, in which mention was made of *Geranium incanum* and that seed of this species was available to members of the Botanical Society.

Many enquiries regarding membership were received and we are indeed grateful to Mrs. Lawder for her kind interest in publicising the benefits of our Society wherever possible.

THE LATE PROFESSOR R. MARLOTH

Mr. Dudley D'Ewes asks us to say that in his article "Still a Place for the Amateur" in the 1967 Journal he wrote in error that the late Professor Marloth was a medical doctor. Actually he was an analytical chemist, with his own laboratory in Church Street. He became interested in botany only after coming to the Cape.

NEWS FROM THAMES, NEW ZEALAND

Mrs. Milicent Warner, who in earlier years lived at the Cape, writes that "the scent of sea from the direction of Constantia still haunts me." Expressing her appreciation of South African wild flowers, Mrs. Warner describes her efforts in cultivating some of these species in her garden in Thames, New Zealand. "The delightful little daisy, *Felicia amelloides* in my garden, that held me entranced and over which I enthused in one of my letters has been almost destroyed by severe sea wind. I had so looked forward to enjoying its loveliness. Never mind, *Protea neriifolia* is making up for it. It has grown enormously the last few months—is now twice the size it was last year and is flowering freely."

"PAINTS WITH FLOWERS"

A love of flowers started Mrs. Dinty Moore, of Natal, on an absorbing hobby—collecting and pressing indigenous wild flowers and using them to compose delicate pictures. An exhibition of her work opened yesterday at a city store.

Her "materials" are collected from the Valley of a Thousand Hills and the surrounding countryside, and climbing 6,000 ft. in search of flowers and seeds is "all in a day's work". Though she has already fallen down a mountain precipice in her search for rare specimens, arduous searches have brought their

verleen aan ons Vereniging by geleentheid van verskillende lesings wat hy gedurende sy jaar van studie aan die Botaniese Tuin Brooklyn, New York, gehou het. As 'n gevolg van sy pogings het ons etlike nuwe lede uit die V.S.A. in ons ledelys ingeskryf.

GERANIUM INCANUM

Bewys van die lewendige belangstelling aan die dag gelê in die Suid-Afrikaanse plantegroei oorsee is gedurende die einde van 1967 gelewer. Mev. Margaret Lawder van Klein Drakenstein, Kaap, het 'n artikel vir 'n Britse tydskrif geskryf waarin melding gemaak is van *Geranium incanum* en dat saad van hierdie spesies aan lede van die Botaniese Vereniging beskikbaar was.

Etlike navrae i.v.m. lidmaatskap is ontvang en ons is inderdaad dank verskuldig aan mev. Lawder vir haar vriendelike belangstelling, deur waar moontlik reklame te maak tot voordeel van die Vereniging.

WYLE PROFESSOR R. MARLOTH

Mnr. Dudley D'Ewes het ons versoek om te sê dat in sy artikel „Still a Place for the Amateur" in die Tydskrif van 1967, hy per abuis geskryf het dat wyle professor Marloth 'n geneesheer was. Hy was in werklikheid 'n skeikundige ontleder met sy eie laboratorium in Kerkstraat. Hy het in die plantkunde begin belangstel eers nadat hy na die Kaap gekom het.

NUUS UIT THAMES, NIEU-SEELAND

Mev. Milicent Warner, wat vroeër aan die Kaap woonagtig was, skryf dat „die lug van die see uit die rigting van Constantia my nog bybly." Mev. Warner, wat haar waardering uitspreek vir Suid-Afrikaanse veldblomme, beskryf haar pogings om sommige van hierdie spesies in haar tuin in Thames, Nieu-Seeland, te kweek. „Die fraai klein madeliefie, *Felicia amelloides* in my tuin wat my bekoor en waaroor ek in een van my briewe geesdriftig geraak het, is feitlik vernietig deur 'n kwaai seewind. Ek het so daarna uitgesien om die skoonheid daarvan te geniet. Toe maar, *Protea neriifolia* is besig om daarvoor te vergoed. Dit het gedurende die afgelope paar maande geweldig gegroei—is nou twee maal so groot as wat dit verlede jaar was en blom vryelik".

„SKILDER MET BLOMME"

'n Liefde vir blomme het mev. Dinty Moore van Natal met 'n stokperdjie waarin sy haar kon verdiep, laat begin—die versameling en pers van inheemse veldblomme en die gebruik daarvan om delikate prentjies saam te stel. 'n Tentoonstelling van haar werk het gister in 'n stedelike winkel begin.

Haar „materiaal" word versamel uit die Vallei van 'n Duisend Heuwels en die omliggende platteland en die bestyging van 6,000 voet op soek na blomme en saad „is alles in die kontrak". Alhoewel sy reeds by 'n afgrond afgeval het op soek na seldsame plantsoorte, het moeilike soektogte hul beloning gebring.

reward. She has to her credit a plant botanists have searched for for 28 years—the miniature South African arum, the smallest in the world.

After drying new specimens in magazines between two carpets—"I found through trial and error that this is the best way, even if it does mean the floor of my cottage is full of bumps!"—Mrs. Moore treats them to preserve the colour. They are then added to her shelves of "stocks"—thousands of flowers and leaves grouped according to colour and type.

Each flower and leaf suggests a pattern and picture to her, and she will go through several hundred from her stock to find exactly the right shape or colour.

Her Cape Town exhibition is the result of nine months' intensive work. "One can throw away 50 specimens for every three perfect results". Every type of flower used is botanically classified—"I'm self-taught and enjoy the 'detective work' of identifying plants".

She makes both miniatures and wall panels which takes "from a few hours to weeks" to complete.

Cape Times, 23 *April* 1968

NATURE RESERVE PROPOSAL

The divisional Council of Oudtshoorn's plan to establish a 70,000 morgen nature reserve in the Swartberg Mountains may take a step forward in August when the scheme is placed before the Nature Reserve Advisory Board for consideration.

The proposed reserve for fauna and flora was approved in principle by the Cape Provincial Council last year, and is intended to stretch in an easterly direction from the top of the Swartberg Pass to Meiringspoort.

The Divisional Council is also negotiating to gain rights to Rietkloof, along the Grobbelaar's River, six miles from the Cango Caves, with the intention of making it a wild life reserve to serve as an additional attraction to the Schoemanspoort camping site, close by.

Garden Route Supplement, *Cape Times*, 15 *May* 1968

GREETING CARDS

Handsome, all-purpose cards, depicting *Protea grandiceps* and *Erica mammosa* from photographs taken by Prof. H. B. Rycroft, are available from the Society's office at only 10 *cents* each.

In addition there are hand-painted cards in a variety of South African wild flowers by Mr. Godfrey Phillips, which are for sale at 25 *cents* each.

MARLOTH RE-PRINTS

Dr. R. H. Marloth, of the Transvaal, has very kindly presented the Society with re-prints of illustrations which appeared in *Flora of South Africa*, by his father the late Dr. R. Marloth.

Op haar kerfstok het sy 'n plant waarna plantkundiges reeds 28 jaar lank gesoek het—die Suid-Afrikaanse miniatuur-aronskelk, die kleinste in die wêreld.

Nadat sy nuwe plantsoorte in tydskrifte tussen twee tapyte droogmaak—„Ek het deur middel van proefnemings gevind dat dit die beste metode is, selfs al beteken dit dat die vloer van my huisie vol knoppe is!"—behandel mev. Moore hulle om die kleur te behou. Hulle word dan op haar rakke met die „voorrade" gevoeg—duisende blomme en blare volgens kleur en tipe gegroepeer.

Elke blom en blaar suggereer 'n patroon en prent vir haar en sy sal deur etlike honderde uit haar voorraad soek om presies die regte fatsoen en kleur te vind.

Haar Kaapstadse tentoonstelling is vooraf gegaan deur nege maande van intensiewe werk., ,'n Mens kan 50 eksemplare vir elke drie volmaakte uitslae weggooi." Elke tipe blom wat gebruik word, word plantkundig geklassifiseer—„Ek het myself geleer en geniet die ‚speurwerk' om plante uit te ken".

Sy maak sowel miniature as muurpanele wat „van 'n paar uur tot weke" in beslag neem om te voltooi.

Cape Times, 23 *April* 1968

NATUURRESERVAAT-VOORSTEL

Die Afdelingsraad van Oudtshoorn se plan on 'n natuurreservaat van 70,000 morg in die Swartberge te stig, kan in Augustus 'n stoot vooruit kry wanneer die skema van die Adviesraad van Natuurreservate vir oorweging voorgelê word.

Die beoogde reservaat vir die diere- en plantelewe is verlede jaar in beginsel deur die Kaapse Provinsiale Raad goedgekeur en die bedoeling is dat dit ooswaarts vanaf die boonste deel van die Swartbergpas tot by Meiringspoort sal strek.

Die Afdelingsraad onderhandel ook om regte te verkry na Rietkloof, langs die Grobbelaarsrivier, ses myl van die Kangogrotte af, met die doel om dit 'n wildreservaat te maak om as 'n bykomstige attraksie vir die nabygeleë kampeerterrein Schoemanspoort, te dien.

Byvoegsel „Garden Route", *Cape Times*, 15 *Mei* 1968

KERS- EN VERJAARDAGKAARTJIES

Fraai kaartjies vir alle geleenthede waarop *Protea grandiceps* en *Erica mammosa* van foto's geneem deur prof. H. B. Rycroft, afgebeeld is, is teen slegs 10 *sent* stuk van die Vereniging se kantoor beskikbaar.

Daarbenewens is daar kaartjies met die hand geskilder in 'n verskeidenheid van Suid-Afrikaanse veldblomme deur mnr. Godfrey Phillips, wat teen 25 *sent* stuk te koop is.

MARLOTH-HERDRUKKE

Dr. R. H. Marloth van Transvaal was so vriendelik om aan die Vereniging herdrukke te skenk van illustrasies wat verskyn het in *Flora of South Africa*, deur sy vader, wyle dr. R. Marloth.

There are 18 illustrations in each set and these will be sold at R4.20 per set or 50 cents for an individual re-print.

NATURE NOTES

Copies of "Nature Notes", an informative leaflet edited by Dr. S. H. Skaife and Dr. H. L. Bolus in earlier years, have been given to the Society for re-sale at a modest fee of 5 *cents* each.

A limited number of copies of "Cape Naturalist", Volume 5, of 1938, have also been given and will be sold at 10 *cents* each.

MEMBERS' REQUESTS:

LACHENALIA ENTHUSIAST

Mr. H. F. Liddell, of 80, St. Marks Avenue, Salisbury, England, is anxious to correspond with members who have an extensive collection of Lachenalias and who would be prepared to exchange or sell seed.

Mr. Keith J. Douglas, 22, Collina Street, Mitcham 3132, Melbourne, Australia, would like to correspond with other members who are interested in succulents.

Mrs. N. B. Engelbrecht, P.O. Bell, via Kingwilliamstown, C.P., is very interested in exchanging African violets with other members of the Society.

PESTS AND DISEASES OF FOREST PLANTATION TREES

Pests and Diseases of Forest Plantation Trees, by F. G. Browne, has recently been published by the Oxford University Press and is an annotated list of the principal species occurring in the British Commonwealth. The South African price of this book is R31.50.

REQUEST FROM THE SECRETARY

Oversea members in particular are invited to write to us about their success with growing South African plants. We welcome news that may be shared with other members.

THE REGIONAL GARDENS OF THE NATIONAL BOTANIC GARDENS

The National Botanic Gardens, with their headquarters at Kirstenbosch, have during the last few years been expanding to become a truly national garden. This has been brought about by the establishment of many regional gardens. Few of us know about these, so I wish to record a few remarks about them all. It is hoped in the regional gardens to grow indigenous plants from that particular region only, while at Kirstenbosch we will continue to have a representative cross-section of the whole South African flora.

The Karoo Garden: was established at Whitehall near Matjiesfontein by a private benefactor in 1921. A new site was given by the Worcester Municipality and the gardens were transferred to it in 1946. In 1957

Daar is 18 illustrasies in elke stel en hulle sal verkoop word teen R4.20 per stel of 50 sent vir 'n afsonderlike herdruk.

NATUURAANTEKENINGE

Afskrifte van ,,Nature Notes", 'n insiggewende brosjure onder redaksie van dr. S. H. Skaife en dr. H. L. Bolus uit vroeër jare, is aan die Vereniging vir herverkoping teen die geringe bedrag van 5 *sent* stuk, gegee.

'n Beperkte aantal eksemplare van ,,Cape Naturalist", Deel 5, van 1938, is ook gegee en sal teen 10 *sent* stuk verkoop word.

VERSOEKE VAN LEDE: LACHENALIA-GEESDRIFTIGE

Mnr. H. F. Liddell van 80, St. Marks Avenue, Salisbury, Engeland, wil graag met lede korrespondeer wat 'n omvattende versameling Lachenalias besit en wat bereid sou wees om saad om te ruil of te verkoop.

Mnr. Keith J. Douglas, 22, Collins Street, Mitcham 3132, Melbourne, Australië, sou graag met ander lede wil korrespondeer wat in vetplante belangstel.

Mev. N. B. Engelbrecht, Pk. Bell, oor Kingwilliamstown, K.P., sou baie graag Usambara-viooltjies met ander lede van die Vereniging wil uitruil.

PLAE EN SIEKTES VAN BOSPLANTASIEBOME

Pests and Diseases of Forest Plantation Trees, deur F. G. Browne, is onlangs deur die Oxford University Press gepubliseer en is 'n lys van aantekeninge voorsien van die vernaamste spesies wat in die Britse Statebond voorkom. Die Suid-Afrikaanse prys van hierdie boek is R31.50.

VERSOEK VAN DIE SEKRETARESSE

Oorsese lede in besonder word uitgenooi om aan ons te skryf oor hul welslae met die kweek van Suid-Afrikaanse plante. Ons verwelkom nuus wat met ander lede gedeel kan word.

DIE STREEKTUINE VAN DIE NASIONALE BOTANIESE TUIN

Die Nasionale Botaniese Tuin, met sy hoofkantoor te Kirstenbosch, het gedurende die afgelope paar jaar uitgebrei om 'n waarlik nasionale tuin te word. Dit is bewerkstellig deur die aanlê van etlike streektuine. Daar is min van ons wat daarvan weet, dus wens ek graag 'n paar opmerkings oor hulle almal te maak. Daar word beoog om in die streektuine alleen inheemse plante uit daardie besondere streek te kweek, terwyl ons by Kirstenbosch sal voortgaan om 'n verteenwoordigende deurssnee van al die Suid-Afrikaanse plantegroei te hê.

Die Karoo-tuin: is in 1921 te Whitehall naby Matjiesfontein deur 'n private weldoener aangelê. 'n Nuwe terrein is deur die Munisipaliteit Worcester geskenk en die tuin is in 1946 daarheen oorgeplaas. In 1957 the area was increased to 290 acres by gifts of land from Mr. C. H. Heatlie and the Worcester Municipality. The reserve is 80 miles from Cape Town and the altitude varies from 1,400 ft. to 1,728 ft. The temperature range is from 41°C. to 1°C. Because of the average 6 inch rainfall this area is suited to the cultivation of succulents. In the reserve there are about 180 species, while approximately 5,000 taxa are cultivated in the garden. Mr. F. Stayner, the Curator, is a most knowledgeable succulent specialist. There is no herbarium in the gardens, which are open daily from dawn to dusk. The best time to visit the gardens for a spectacular splash of colour is in late spring, although different interesting taxa are in flower at different times.

Harold Porter Botanic Reserve: at Betty's Bay was bequeathed by the late Harold Nixon Porter and placed under the control of the National Botanic Gardens in 1959. The reserve is 454 acres in extent with an altitude range from 400 ft. to 1,850 ft. The temperature range is 35°C. to 10°C. and the average rainfall 36 in. Mr. W. Ebersohn is the Curator and the gardens are open daily. 165 taxa have been identified. The gardens are peaceful and charming throughout the year with an outstanding collection of wild birds. In spring the Podalyrias, Ericas, Pelargoniums and Mimetes are spectacular and in summer the Nerines form the main show.

Disa Kloof, given by Hangklip Beach Estates in 1964, is picturesque and cool all year, with *Disa uniflora* in flower in December/January. There is no herbarium on the reserve.

The Edith Stephens Cape Flats Flora Reserve: of 9 acres near Philippi was purchased and donated to the National Botanic Gardens by the late Miss E. L. Stephens in 1957. This area is fenced and locked so a visit must be arranged with Kirstenbosch. There are approximately 200 taxa. This botanically valuable area represents one of the few remaining typical Cape Flats vleis, with its interesting algal flora together with members of the Liliaceae and Iridaceae and the interesting Pteridophyte—*Isoetes capensis.*

There is a constant threat of invasion by the Port Jackson willow and other Australian wattles. Kirstenbosch staff have cleared the reserve of the aliens and keep a constant vigil.

The Tienie Versveld Flora Reserve, Darling: of 54 acres was given by Mr. "Tienie" Versveld in 1957. It is an area of 54 acres and 165 ft. altitude, with an annual rainfall of 15 in. and a temperature variation from 40°C. to 6°C., which Mr. Versveld had for many years preserved as a floral reserve. There is no resident Curator and 165 species have been identified. Although the gate is locked, a stile has been built and the public are admitted freely.

This reserve is a wonderful example of the spectacular and yet very dainty "Sandveld" flora. About 60 miles from Cape Town, a visit is a "must" in spring,

is die gebied uitgebrei tot 290 acres deur grond wat geskenk is deur mnr. C. H. Heatlie en die Munisipaliteit Worcester. Die reservaat is 80 myl van Kaapstad af en die hoogte wissel van 1,400 vt. tot 1,728 vt. Die temperatuur wissel van 41°C. tot 1°C. As gevolg van die gemiddelde reënval van 6 dm. is dié gebied geskik vir die kweek van vetplante. In die reservaat is daar ongeveer 180 spesies terwyl ongeveer 5,000 plantsoorte in die tuin gekweek word. Mnr. F. Stayner, die Kurator, is 'n vetplant-spesialis. Daar is geen herbarium in die tuin, wat daagliks van sonop tot son onder oop is nie, en die beste tyd om die tuin te besoek om die skouspelagtige kleureprag te aanskou, is die laat lente, alhoewel verskillende interessante plantsoorte op verskillende tye in die blom is.

Botaniese Reservaat Harold Porter: te Bettysbaai is deur wyle Harold Nixon Porter nagelaat en in 1959 onder beheer van die Nasionale Botaniese Tuin geplaas. Die reservaat beslaan 454 acres met 'n hoogte wat strek van 400 vt. tot 1,850 vt. Die temperatuur wissel van 35°C. tot 10°C. en die gemiddelde reënval is 36 dm. Mnr W. Ebersohn is die Kurator en die tuine is daagliks oop. 165 plantsoorte is uitgeken. Die tuin is dwarsdeur die jaar vreedsaam en bekoorlik, met 'n uitmuntende versameling wilde voëls. In die lente is die Podalyrias, Ericas, Pelargoniumsoorte en Mimetes skouspelagtig en in die somer vorm die Nerines die vernaamste aantreklikheid.

Disa-kloof in 1964 deur Hangklik Beach Estates geskenk, is dwarsdeur die jaar skilderagtig en koel, met *Disa uniflora* gedurende Desember/Januarie in die blom. Daar is geen herbarium op die reservaat nie.

Die Blomreservaat Edith Stephens op die Kaapse Vlakte: van 9 acres naby Philippi is gekoop deur wyle mej. E. L. Stephens en in 1957 aan die Nasionale Botaniese Tuin geskenk. Hierdie gebied is omhein en toegesluit, dus moet 'n besoek met Kirstenbosch gereël word. Daar is ongeveer 200 plantsoorte. Hierdie plantkundig waardevolle gebied verteenwordig een van die paar oorblywende tipies Kaapse Vlakte-vleie, met sy interessante alg-plantegroei, tesame met lede van die Liliaceae en Iridaceae en die interessante Pteridophiet *Isoetes capensis.* Daar is 'n gedurige bedreiging van indringing deur die Port Jacksonbos en ander Australiese wattelbome. Kirstenbosch-personeel het die indringers uit die reservaat verdryf en hou steeds die wag.

Die Veldblommereservaat Tienie Versveld, Darling: is in 1957 deur mnr. „Tienie" Versveld geskenk. Dit is 'n gebied van 54 akkers en lê 165 vt. boseespieël met 'n jaarlikse reënval van 15 dm. en temperatuur wat wissel van 40°C. tot 6°C. wat mnr. Versveld jare lank as 'n blomreservaat bewaar het. Daar is geen inwonende kurator nie en 165 spesies is uitgeken. Alhoewel die hek gesluit is, is 'n steg gebou en die publiek word vryelik toegelaat.

Die reservaat is 'n wonderbaarlike voorbeeld van die skouspelagtige en tog baie fyn „Sandveldse" flora. Dit is ongeveer 60 myl van Kaapstad af geleë en moet particularly in late September. Visitors should, however, be warned that at the height of the spectacular flower season, the blood-sucking midges are at their very worst and can be decidedly unpleasant.

Free State Botanic Garden: This garden was started in July, 1967, on land 4½ miles outside Bloemfontein, presented by the Bloemfontein City Council. It covers 112 acres and has an altitude range from 4,400 ft. to 4,700 ft., with a rainfall average of 30 in. per annum.

The flora of the reserve is at present being studied by students from the Botany Department of the University of the Orange Free State. There are three dams on the reserve and a very attractive kloof with krantzes. There is no herbarium in the gardens. Mr. G. Feinauer, formerly of Kirstenbosch, is the Curator. The gardens are open daily to visitors. Layout and planting are going ahead very rapidly and this garden has the potential to become one of the Orange Free State beauty spots. Only the plants of the Orange Free State are being grown.

Drakensberg and Eastern Free State Botanic Garden: is situated in the scenically beautiful Eastern part of the Orange Free State about 220 miles from Bloemfontein. The land, 585 acres in extent, was given by the Harrismith Municipality and it has an altitude range from 5,400 ft. to 5,735 ft. with an annual rainfall of 35 in.

The area is mainly grassland but there is a kopjie with mountain vegetation. This garden will specialise in the cultivation and display of plants indigenous to the Eastern Free State and Drakensberg area. The indigenous flora of the reserve has not yet been studied, but it is hoped to start soon. Mr. A. van der Zeyde is the Curator, who is most energetically and enthusiastically engaged on the lay-out. The gardens are open daily from dawn to dusk. There is no herbarium at the garden and as for the other regional gardens, specimens collected are housed in the Compton Herbarium at Kirstenbosch.

eenvoudig in die lente, veral laat in September besoek word. Besoekers moet egter gewaarsku word dat wanneer die skouspelagtige blommeseisoen sy hoogtepunt bereik, die bloedsuigende muggies op hul ergste is en beslis onaangenaam kan wees.

Vrystaat se Botaniese Tuin. Hierdie tuin is in Julie 1967 op grond 4½ myl buitekant Bloemfontein begin, wat deur die Bloemfonteinse Stadsraad geskenk is. Dit beslaan 112 akkers en 'n hoogte met bo-seespieël wat strek van 4,400 vt. tot 4,700 vt., en 'n gemiddelde reënval van 30 dm. per jaar.

Die plantegroei van die reservaat word tans deur studente van die Plantekunde-departement van die Universiteit van die Oranje-Vrystaat bestudeer. Daar is drie damme op die reservaat en 'n baie aantreklike kloof met kranse. Daar is geen herbarium in die tuin nie. Mnr. Feinauer, voorheen van Kirstenbosch, is die Kurator. Die tuin is daagliks oop vir besoekers. Die uitleg en aanplanting gaan baie snel vooruit en hierdie tuin het die potensiaal om een van die pragplekke van die Oranje-Vrystaat te word. Slegs die plante van die Oranje-Vrystaat word gekweek.

Botaniese Tuin Drakensberg en Oostelike Vrystaat: is in die natuurskone oostelike deel van die Oranje-Vrystaat, ongeveer 220 myl van Bloemfontein geleë. Die grond wat 585 akkers beslaan, is deur die Munisipaliteit Harrismith geskenk en dit is geleë op 'n hoogte bo seespieël wat wissel van 5,400 vt. tot 5,735 vt. met 'n jaarlikse reënval van 35 dm.

Die gebied bestaan hoofsaaklik uit grasveld maar daar is 'n koppie met bergplantegroei. Hierdie tuin sal in die kweek en vertoning van plante inheems aan die Oostelike Vrystaat en die gebied Drakensberg, spesialiseer. Die inheemse plantegroei van die reservaat is nog nie bestudeer nie, maar die vertroue word uitgespreek dat daar binnekort daarmee begin sal word. Mnr. A. van der Zeyde is die Kurator, en hy is energiek en geesdriftig besig met die uitleg daarvan. Die tuine is van dagbreek tot skemer oop. Daar is geen herbarium by die tuin nie en soos in die geval van die ander streektuine word versamelde plantsoorte in die Compton-herbarium te Kirstenbosch bewaar.

THANKS:

Our thanks are due to the President, Mr. Dudley D'Ewes, for his help in preparing this *Journal* for the Press.

DR. GWENDOLINE JOYCE LEWIS

who died in Cape Town on 11th April, 1967.

Her first association with Kirstenbosch was when she held the Edward Muspratt Solly Scholarship in 1932 and 1933.

She gained the degrees of B.A. and Ph.D. at the University of Cape Town and was elected to Fellowship of the Royal Society of South Africa in recognition of her contributions to botanical science.

For eighteen years she was Curator of the South African Museum Herbarium in Cape Town until she and the herbarium were transferred to Kirstenbosch in November 1956.

At Kirstenbosch, Dr. Lewis held the post of Botanical Research Officer and made significant contributions to the taxonomic study of the family *Iridaceae*. At the time of her death she was nearing the completion of her monograph on the genus *Gladiolus*. It is hoped that this work will be published posthumously.

Dr. Joyce Lewis will be sadly missed by a large circle of friends. To South African botany her sudden death is a very great loss and our sorrow will undoubtedly be shared by many botanists all over the world.

H. B. RYCROFT.
Director, National Botanic Gardens
of S.A., Kirstenbosch.

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Growing a Plant to Attract a Butterfly

BY DUDLEY R. D'EWES

President of the Botanical Society of S.A.

IT was the wind, sending to my garden a seed parachuted on glistening down, that originally brought me what is now one of my favourite indigenous plants, one which has given me many moments of my keenest gardening pleasure.

The plant is *Asclepias physocarpa*—"melkbos" on the veld, "milkweed" in America for the related plant, because when wounded any part of the plant exudes milky sap. The shrub is rather leggy and short-lived. The flowers, though beautiful under magnification, are too small to make any sort of show. But what does distinguish a mature plant in summer and autumn is the multitude of hirsute balloons forming the fruits. Each of these decorates the plant for weeks, turning agreeable shades of bronze-purple at maturity, then splitting along a seam to release scores of small dark seeds, each on a downy parachute.

Children love these fruits; and children not under proper control can't keep their hands off the reachable ones, which chubby fingers find pleasurable handling and which, properly bashed, explode with a satisfying pop.

Aphids also find Asclepias attractive—a particularly distasteful kind of aphis too, sea-sick yellow-green in colour, which can severely check a young or struggling plant unless removed.

But the strongest pest of all, the most beautiful and to me the most congenial, is the African Monarch butterfly which, like its American counterpart, prefers Asclepias above all other plants. It will always find even a lone specimen. At first all you notice is that some of the twigs seem to be stripped of the semi-mature leaves just below the growing tip. On closer inspection you find a few caterpillars with pronounced bars of yellow, grey and black on their bodies, which are also decorated with six half-inch threads, two at the head, two near the middle, and two at the tail end. They eat industriously.

If the gardener has nerves strong enough to endure their presence because they look so pretty, they reward him in time by pupating either on the same shrub (sometimes on the underside of a fruit) or on a wall, rock or fence near-by. The pupa is a jade-green jewel with a sort of "zip" of gold dots near the top, and sometimes with spots of gold dotted apparently at random over the body.

When the butterfly emerges it is one of the loveliest winged things in Africa. The fore-wings are a rich mahogany-brown, shading to lighter brown in the rear wings. The under-sides of the wings are a light brown. They are decorated with black-rimmed white spots. The body is black with white spots. The whole effect can be enjoyed far more easily than with many other butterflies, because the *Danaus chrysippus*, being distasteful to birds, flies with leisurely boldness quite unlike the flutter-by flight of more timorous butterflies. In fact it has been so successful in advertising itself as a toughie that it has been imitated by others, but that story would take us rather far from our botanical context.

When I was praising the beauty and interest of this butterfly to a friend who grows many stapeliads, he was a bit shocked, for his own experience has been that before you know they are there the caterpillars devour the buds of these plants, leaving not even the stink behind. My own experience, for what it is worth, is that while you have an Asclepias or two about the place, the Monarch butterflies will tend to leave the stapeliads alone. They prefer Asclepias itself, making do with other Asclepiadaceae only as second-best. I have only once had a Stapelia attacked, and then the caterpillar most considerately devoured a fading flower.

On small Asclepias plants the caterpillars may do serious damage; but being conspicuous—a sign that they, too, are distasteful to predators—they can easily be hand-picked. I have before now removed caterpillars from small plants to mature specimens which could easily afford to lose a few more leaves.

This is a far more agreeable example of specialization in one food-plant than the other familiar Cape butterfly, the *Acraea horta* whose black, abundantly spined caterpillars work such havoc on the leaves of the Wild Peach, *Kiggelaria africana.* In small gardens they crawl across to pupate on the nearest wall, to the intense irritation of housewives. I have seen dozens and scores on the upper side of the Tea House at Kirstenbosch; they had fed on the fine old Wild Peach at the corner and chose the Tea House wall as the nearest vertical surface.

These relationships between insect and food plant are simple, clear-cut and beautiful; and it is my firm belief that both botany and gardening are enriched by a consistent study of all such relationships, proceeding from simple ones like those I have mentioned to the complicated populations that use Proteas (see Mr. Gess' article in this Journal) or the less easily studied nocturnal insects, including the spectacular hawk moths.

Asclepias offers few cultural difficulties except the initial one of getting the seed or the plant. I have seen it listed in the catalogue of one nursery specializing in indigenous plants. As I have said, my own was a gift of the wind. They seem to be tolerant about soil conditions, but need to be staked—especially in autumn, for when heavy with fruit they can be badly rocked by the combination of driving rain and gusty winds that mark the end of our summer drought.

NOTICE

CORRECTION

It is sincerely regretted that an incorrect caption was attached to the frontispiece of our 1967 Journal.

The correct names are:

> Above illustration: *Disa uniflora*; and photograph below: *Disa uniflora*; the very large pale pink form from Fonteinjiesberg in the Hex River Mountains.

Horticulture of Indigenous Plants in South Africa

With Special Reference to work at Kirstenbosch.
A paper delivered at the International Horticultural Congress at Maryland, U.S.A.

BY PROF. H. BRIAN RYCROFT
Director, National Botanic Gardens of South Africa, Kirstenbosch

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WHEN I was asked to prepare a paper for the International Horticultural Congress the suggested title was "Horticulture in South Africa". I must confess, however, that I am not a horticulturist by training nor by profession. My academic qualifications are in botany and forestry, and, as Director of the National Botanic Gardens of South Africa at Kirstenbosch near Cape Town, I am better equipped to talk about the work of this Institution and to tell you something about the culture of the native plants of South Africa as practised by us.

Briefly, the principal aims of Kirstenbosch and its regional gardens in other parts of the country are scientific and educational; the collection, cultivation, study and display of the indigenous flora of South Africa; and the preservation of the native vegetation.

You will realise therefore that in the National Botanic Gardens of South Africa our attention is devoted exclusively to the natural flora of our own country. In this respect the Institution is quite unique in being one of the few in the world which has this as its primary aim. It can also perhaps be said that South Africa with its tremendous wealth and beauty of natural flora is one of the few countries which is able to develop a major botanic garden having this object.

Let us start at the beginning of European or white civilization in South Africa, more than 300 years ago. At that time there was a flourishing and regular trade between Europe and the East Indies. The route was via the Cape at the southern end of Africa, the journey was long and arduous and many of the sailors died of scurvy and other diseases because of the lack of fresh food.

The Dutch East India Company in Holland therefore decided to start a settlement or half-way house at the Cape in 1652 with the express purpose of establishing a garden for the growing of fruit and vegetables for the sailors. I am mentioning this to point out that horticulture provided the reason for the founding of the settlement and that horticulture was the first organized industry in South Africa.

Naturally gardeners were appointed to sow and cultivate the plants. It was not long before they and others who were interested began to take note of the amazing wealth and beauty of the indigenous flora in the vicinity of the settlement. Bulbs, rhizomes, cuttings and seeds were collected and sent to Europe for growing there and thus the Cape flora gradually became known outside South Africa.

During the eighteenth and nineteenth centuries it became fashionable to grow rare and "exotic" plants in Europe and the United Kingdom and travellers were specially sent out by wealthy landowners and merchants to make collections. Botanists too became interested in such plants purely for scientific reasons. Many Cape plants and specimens therefore found their way into gardens and herbaria thousands of miles away from their native habitat.

From that time until the present day although fashions have changed South Africa has continued to make its contribution to world horticulture by providing native plants of this country. It is quite true that we have contributed very little in the way of new hybrids or cultivars. The reason for this, I think, is two-fold. In the first place South Africans are quite happy to import varieties developed overseas, such as Dahlias, Roses, Delphiniums, Antirrhinums, Stocks and the like. In the second place we are perfectly satisfied and, I may say, proud to accept our wild flowers just as nature intended them to be without attempting to make them 'bigger and better'.

Particularly during the last decade or so people in my country have been taking an increasing interest in the cultivation and preservation of the native flora. This has come about very largely as a result of the work being done at Kirstenbosch and the encouragement given by members of my staff. As I have already mentioned we concentrate exclusively on our own flora and every year finds plants never propagated before being brought into cultivation at Kirstenbosch. These Gardens are visited by about 500,000 people annually and they are able to see the horticultural possibilities of the plants on display. Furthermore, members of the Botanical Society of South Africa are privileged to receive a free quota of seeds of their own choice each year. Incidentally, the Society, with its headquarters at Kirstenbosch has members in practically every country of the world.

I would like to mention a few South African plants which are now grown far away from their natural habitats.

Gladioli in many shapes, sizes and colours are known to most people interested in gardening but I wonder how many of them realise that they have been developed mainly from species native to South Africa. It is a pity that the beautiful scents of the indigenous species have been lost. Perhaps in future breeding programmes this could be kept in mind and with back crossing reintroduce the perfume of the wild plants.

Pelargoniums (the so-called Geraniums) which originally came mainly from South Africa have found their way into homes, private gardens and public parks in many parts of the world. From my own experience I can say that there is hardly a city or town in Europe or the United Kingdom which in summer does not have flowering plants of Pelargonium in the streets. I have also seen very gay red displays in the streets and parks in Moscow and Leningrad. It is claimed that more than 35,000,000 plants are sold annually in the United States alone.

Other noteworthy introductions to world horticulture from South Africa include the Barberton Daisy (*Gerbera jamesonii*), *Strelitzia reginae* (the civic emblem of Los Angeles and known in the States as "Birds"), Freesia, Tritonia, Agapanthus (now becoming more popular in the United Kingdom), *Clivia miniata* (grown in glasshouses all over the world), Nemesia, *Zantedeschia aethiopica* (Arum or Calla Lily), and of course the small succulents such as Lithops, Conophytum, etc. (seen under glass in most Botanic Gardens).

The family Proteaceae is well represented in South Africa and although even better represented in Australia our species are generally more "popular" and showy. In fact they are being grown on an ever increasing scale by nurserymen in Australia. The flowers are so strikingly different from most other types of plants that they always attract considerable attention when displayed at exhibitions in various parts of the world. It is not surprising therefore that attempts to grow these plants are being made in many different countries, unfortunately not always with any significant success.

There are probably several reasons for failure. I trust that the following remarks will assist horticulturists to achieve better results in the future:

Horticulturally, the most desirable genera of the South African Proteaceae and the most generally cultivated in our country are Protea, Leucospermum, Leucadendron and Serruria. In nature they occur mainly in the southernmost part of Africa which enjoys a Mediterranean type of climate with warm to hot dry summers and cool wet winters. A large part of the area is frost free but many of the species extend high up into the mountains where light falls of snow are experienced every winter.

A characteristic of practically every species is that it grows in well-drained soil with an acid reaction, the pH being between approximately 5.0 and 6.5. No success in cultivation therefore can be expected where the soil is alkaline, and applications of lime usually spell certain death to the plants. This is probably the reason for failures in Southern California and in the Mediterranean region where, although the climate is suitable, the soils are generally alkaline.

At the beginning of the last century Proteas were grown on a fairly large scale in the United Kingdom and in Europe but today they are seldom seen. The reason is not far to seek. When tropical orchids and other plants were introduced into the same glasshouses as the Proteas and were then heated and kept humid the Proteas promptly died out. Sir Joseph Hooker, Director of the Royal Botanic Gardens, Kew, wrote in 1881: "The Cape Proteaceae, the favourites of our grandfathers may be said to have gone out of cultivation, so completely have they been replaced by other tribes . . . neither more interesting nor more curious. . . . This neglect of a whole genus of most conspicuous plants . . . is not due to want of beauty, for some of the formerly cultivated species are among the handsomest of plants such as . . . *Protea cynaroides*, *Protea speciosa*,. . . . Of these and many other such, the present and even the past generation of horticulturalists know absolutely nothing; this is mainly due to the introduction of the improved systems of heating houses and that incessant watering that . . . is the death of the proteas."

A very necessary requirement therefore in growing Proteas is a warm dry atmosphere with plenty of air movement in summer and a cool, moist winter. Placed in a stuffy, hot, humid glasshouse, they will certainly die.

During the last few years there has been an increasing demand from the Northern Hemisphere for Proteas as cut flowers. There is no difficulty in ensuring that they arrive in London or Paris in a fresh condition if sent by air but due to their weight freight charges are high. Sending the blooms by sea, therefore, would be a cheaper method but it has been found that the leaves often turn black. Experiments are now being undertaken by the South African Department of Agriculture on the keeping qualities and it is hoped that suitable treatments will be discovered to ensure that the blooms and leaves arrive in good condition. If this research is successful it is anticipated that the export of Proteas will be a successful enterprise.

Proteas, as we have seen, have made their entry to a limited extent, into Botanic Gardens in various parts of the world and I now make bold to state that in my opinion before long the most beautiful and one of the rarest of the South African ground orchids will also find its way into your glasshouses. It is the Red Disa or *Disa uniflora* which occurs naturally on moist slopes and beside streams on Table Mountain and other mountains in the south western Cape Province. I say glasshouses purposely and not hot-houses because like the Proteas *Disa uniflora* cannot tolerate a calm, hot, humid atmosphere.

This species from a temperate climate rivals many of the tropical orchids in the sheer beauty of its form and colour. Although it has been grown in the Botanic Gardens at Göteborg, Sweden, for many years it is only comparatively recently that we have had success in cultivating it at Kirstenbosch, and for your benefit I pass on to you what we know about its requirements.

The seeds, as in most orchids, are extremely minute and should be lightly sown on a mixture of equal parts moss and river sand. Seeds do not remain viable for very long and must therefore be sown fresh. At a temperature of about 50° to 65°F germination should take place in 30 or more days. When the seedlings are about 6 months of age and with at least 3 leaves they should be pricked out in small clumps; single seedlings are too small to handle. They should be planted into fresh green moss which should be replaced every second year. The plants will flower during the summer months after 3 to 4 years.

From our experience in cultivating *Disa uniflora* it appears that one of the most important factors is type and reaction of the soil and water. The pH value can be 6.8 but never higher. Chlorinated or otherwise treated water from Municipal supplies should on no account be used. We have found rain water or stream water with an acid reaction to be quite suitable.

The latest introduction to world horticulture from Kirstenbosch is a composite called *Ursinia geyeri*. There are about 70 species of Ursinia in South Africa and some of them are responsible for the brilliant displays in semi-arid Namaqualand during the spring after adequate winter rains. The flowers are almost universally yellow or yellowish-brown but *Ursinia geyeri* which was discovered only a few years ago has ray florets which are crimson. This in itself makes the species quite unique. Furthermore the colour is so brilliant as to make it a most desirable species in any garden.

Seeds were sent to many botanic gardens this year for the first time and it is my prediction that within a few years and in the hands of plant breeders, geneticists and hybridists its form will be "improved" and it will find its way to all parts of the world.

Ursinia geyeri is a perennial with small greyish-green leaves, branching freely into a compact plant up to about 12 inches tall and produces its glowing red flowers, more than 2 inches across, about 4 months from seed. A rich, well-drained soil and a warm aspect are advisable and the seeds should be sown in boxes or sandy beds prior to transplanting into their permanent positions where they will flower from early spring to mid-summer.

I have brought a small supply of seeds with me and am happy to distribute them to botanic gardens, and related institutions for trial. Please let me have reports on your success.

Although no active or regular research programme has yet been planned at Kirstenbosch on the behaviour and cultural requirements of the South African flora, careful observations are made on the response of the species in cultivation and of new introductions to different treatments. As far as possible arrangements are made for members of the horticultural staff to visit the exact localities from which the plants are collected in order to observe at first hand the conditions under which they grow in nature.

At Kirstenbosch most of the plants are grown in the open but special conditions are created under glass for species which come from parts of the country where climatic conditions are quite different from those of the Gardens or for species with specialised micro-habitats. Even so, it is found that many species are unable to tolerate the climate of the south-western Cape despite the assistance of glass, shade or special water relations.

For this reason regional gardens have been established in parts of the country where climatic conditions are quite different from those prevailing at Kirstenbosch. At the Karoo Garden, Worcester, for example which is only 80 miles east from Kirstenbosch the annual rainfall is approximately 7 inches (180 mm.) compared with 53 inches (1350 mm.) at Kirstenbosch. Here we concentrate exclusively on the plants from the more arid regions of South Africa.

Unlike other continents, with the exception of America, Africa is the home of an extremely rich variety of succulent plants, many of which have found their way into botanic gardens and private homes in all parts of the world. They grow in abundance in the dry Karoo region of the Cape Province and in South West Africa. A very fine collection is cultivated in the Karoo Garden at Worcester where most of the plants are grown in the open. Common genera are Lithops, Conophytum, Stapelia, Aloe, Cotyledon, Cissus and Euphorbia, some or all of which are probably well known to you. In this Garden, as in Kirstenbosch and its other regional gardens, there are probably several species which by now have been completely exterminated in their natural habitats.

The Harold Porter Botanic Reserve at Betty's Bay, about 60 miles to the south east of Kirstenbosch and lying between the mountains and the sea is situated in what is probably the richest floral region of Southern Africa. Heaths (Erica spp.) occur in abundance and the area is well known for its large number of endemic species, genera and even families. Additions of species from various parts of the winter rainfall area of South Africa are constantly being introduced to the Botanic Reserve.

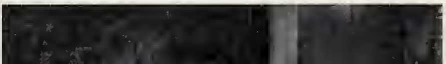
Two other Botanic Reserves (they can hardly yet be termed "Gardens") are also under the control of Kirstenbosch. The Darling Flora Reserve approximately 60 miles to the north is situated in a region with a very distinctive natural flora very different from that of other parts of South Africa. Bulbous plants are particularly plentiful and this is the home of *Nemesia strumosa* from which the Nemesia hybrids of gardens have been developed. It is also the natural habitat of *Ornithogalum thyrsoides*, the Chincherinchee, whose blooms are exported in large quantities to the northern hemisphere at Christmas time every year. Every effort is being made to preserve the plants growing naturally in the Reserve and to introduce as many species as possible from its own phytogeographical area. This of course applies to all the branches of Kirstenbosch.

The Cape Flats Flora Reserve within 10 miles of Kirstenbosch is located in a rather sandy area which once supported a most interesting and distinctive flora. Unfortunately the introduced wattles from Australia, *Acacia cyanophylla* and *Ac. cyclops*, have found the soil conditions very much to their liking and have taken almost complete possession of the whole region. These aliens have been removed from the Reserve and the original Cape Flats flora is being encouraged to re-establish itself, with, of course, artificial assistance.

Negotiations are at present taking place for the establishment of additional gardens in the other Provinces of South Africa. In each garden the main emphasis is to be on the flora of its own region. In this way South Africans, and of course visitors, will be able to become better acquainted with the vegetation of South Africa, and at the same time we shall be achieving what to me is an extremely important function — the preservation of the natural flora of South Africa both in a practical manner and by encouraging a greater appreciation of our floral heritage.

A warm welcome awaits anyone who wishes to visit us and our Gardens!

Mr. A. J. M. Middlemost, who has retired from Kirstenbosch as Assistant Curator, after forty-five years' service.
PHOTOGRAPHER: *The late Mr. Ken Howes-Howell*



Mr. J. H. S. Winter—the new Assistant Curator of Kirstenbosch.

Mr. E. G. H. Oliver, Scientific Liaison Officer for the South African Government at the Royal Botanic Gardens, Kew.

Mist Propagation at Kirstenbosch

J. H. S. WINTER

Assistant Curator, National Botanic Gardens, Kirstenbosch

IN September a mist propagation unit was installed at Kirstenbosch which has resulted in a vast change in routine, planning and thought of the horticultural work at Kirstenbosch. One would never have thought that this new development in vegetative propagation, which incidentally, was initially developed by a New Zealander, Mr. MacPenny, a mere 15 years ago, would have such tremendous impact on horticulture in such a short space of time.

The system of mist propagation consists of an arrangement of very fine mist nozzles, situated approximately 18 in. above the propagation bed. These mist nozzles are regulated by means of an electronic leaf which ensures a constant humidity in the propagation house. By maintaining a relatively high humidity in the house, the loss of moisture from your cutting material is reduced considerably. In addition, it has been found that by maintaining the rooting medium at a temperature of 70°F. to 75°F., which is comparable to the temperature of the atmosphere in the house, this tends to stimulate and accelerate the development of root formation. A heating cable is laid below the rooting medium to provide the bottom heat which is thermostatically controlled.

The ultimate result being that we are now capable of producing any number of plants in a very short space of time. What is more, as we are all very much aware, many plant subjects are not of the easiest to reproduce, either from seed or cuttings. However, with these facilities now available to us we have managed to overcome a number of these problems and will undoubtedly continue to do so.

Probably one of the most important factors governing the successful management of a propagation unit, whether it be mist propagation or otherwise, is cleanliness and continual attention. All dead material must be removed daily, temperatures checked, ventilation regulated depending on weather conditions and the immediate application of insecticides or fungicides if need be. During the winter months when the mist unit is not in use the house is thoroughly washed and cleaned in preparation for the spring. All rooting mediums are removed, the sand is washed and treated with an application of fungicide.

The most commonly used rooting medium is either clean sharp river sand, free of all foreign material or a mixture of this sand and peat in equal proportions. It is essential that the drainage be very good. A layer of coarse granite chips below the rooting medium is adequate for providing efficient drainage, with holes at regular intervals on the floor of the rooting bench to allow for the run-off of excess water.

Mist propagation is predominantly used for the rooting of soft-wood and semi-hardwood cuttings, the former being the most successful under mist conditions. During the summer months, one member of staff is fully occupied throughout the day with the preparation of cutting material. It is most important that the stock plants from which the cuttings are taken are healthy and free of all disease and infestation. The ideal cutting is 3 in. long with the basal cut just below a node. A clean sharp knife is used for this purpose as a clean cut is desired with no jagged edges.

Once the cuttings have been prepared, they are placed in the rooting medium in rows and are carefully labelled with the date of preparation, accession number and the name of the plant material. Difficult subjects are given additional treatment such as rooting hormones of various types and varying conditions of having no bottom heat or reduced moisture conditions.

During the last six months we have concentrated mainly on the propagation of perennials. One particular plant which has proved most worthwhile is the delightful *Diascia moltenensis*, from Molteno, reaching a height of 12 in. and covered in a mass of striking pink flowers for most of the summer. In October a mere dozen cuttings were prepared from a solitary plant of *Diascia moltenensis*, donated to us by Prof. Schelpe. Today we boast of no less than a couple of thousand young plants of this particular specie in the garden, which is an indication of how rapidly we are able to propagate.

Another closely related perennial and very similar to *D. moltenensis* is a Diascia hybrid; the parentage being *D. rigescens* x *D. capsularis*. Unfortunately this Diascia is sterile and sets no seed. However, this should not discourage one as they root so readily from cuttings. As a matter of interest, under ideal conditions, cuttings of the two Diascia mentioned root in 7 days and are in full bloom within a month.

An interesting and worthwhile subject is *Sutera grandiflora*. This perennial flowers practically all the year round, producing lovely shades of blue flowers and growing to a height of about 3 ft. Obtaining seed of *S. grandiflora* has always been a problem, consequently we were very pleased to discover that it rooted so readily under the mist unit. The weaning of this particular plant is rather tricky, however, with continual care and attention a large number have been established for the garden. Another Sutera is *S. microphyolla*, a dwarf compared to *S. grandiflora* but nevertheless well worth growing, providing a carpet of very dark blue flowers for most of the summer.

The Plectranthus are a group of plants which have recently been planted out in large numbers. Their propagation is no problem. They root in a matter of weeks and provide much interest and a wide range of colour during the later summer months. There are numerous specie of Plectranthus, some preferring shady conditions such as *P. ecklonii* (varying shades of mauve to white), *P. saccatus* (blue flowers), and *P. buhrii* (light mauve), while others (*P. tomentosus*, *P. grandidentatus*) thrive in full sun.

A most useful and attractive silverleaf groundcover, *Helichrysum argyrophyllum*, which produces clusters of dainty, bright yellow flowers in April and May, responds well under mist propagation. However, once planted out, care must be taken that they are not watered too liberally as they tend to die out in patches. They prefer a dry aspect. The taller growing *H. argenteum* provides still further colour and variation throughout various sections of the garden. Here again the propagation of *H. argenteum* is no problem and this species appears to be more tolerant of liberal applications of water. With the inevitable shortage of water each summer, this group of plants is ideal as they are capable of withstanding long periods of drought.

Something which has proved an ideal subject for display is *Phygelius equalis*, bearing pale pink flowers on tall spikes, 18 in. to 2 ft. in height, during the first year. *Phygelius* enjoys both shade and full sun, flowering from within 6 weeks from propagation throughout the summer months.

The mist unit has played a major part in increasing our stocks of the various Selagos which are most pleasing and worthy perennials. We are still in the process of establishing large enough stocks of Selago sp. such as *S. spuria*, which incidentally is endemic to the slopes of Kirstenbosch. In early summer one will discover *S. spuria* producing large single heads of dark blue flowers on erect stems 12 in. to 18 in. tall in sunny aspects. *Selago thunbergii* and

Plectranthus tomentosus—*grown from soft-wood cuttings in September,* 1967, *under mist propagation. The plants are* 2½ *feet high and in full bloom, indicating how rapidly one can reproduce many perennials provided ideal facilities are available.*

PHOTOGRAPH BY *Mr. J. H. S. Winter*

S. serrata are a further two species which are worth cultivating. Their colours range from white to varying shades of blue.

Lobostemon fruticosus also found locally on the Peninsula provides a wide range in colour from various shades of blue to pink. This particular plant, however, has not responded well in the mist unit and will probably prove more successful under cool dry conditions.

When propagating, *Lebeckia* is another difficult customer, producing very little viable seed. Consequently we will have to reproduce vegetatively, which to date has not proved very successful.

Amongst the shrubs, *Liparia spherica*, an interesting legume, growing to a height of 3 ft. to 4 ft., adorned in early summer with yellow to orange clusters of pendulous flowers, has recently been successfully rooted. Of the seed produced by Liparia much is parasitised by insects. The well known *Barleria obtusa*, with its mass of blue flowers in autumn, roots within a month without much bother.

It is all very well growing the various perennials I have mentioned, however, without the correct treatment one is not rewarded with the most worthwhile qualities of these plants. Each year after flowering, they should be cut back hard in order to induce plenty of new growth in the following season. As they all flower on the current year's growth, the more growth one can stimulate, the more flowers can be expected. Pruning the plants, tends to keep them young and vigorous. A heavy application of well rotted manure in the spring helps to stimulate growth.

Inevitably many of these perennials become rather woody and lose much of their vigour. This is an indication that fresh young plants must be propagated to replace the old woody specimens.

I have mentioned but a few of the numerous perennials we have successfully managed to propagate under a mist unit and there are yet many more we hope to succeed with in the future. To my mind the perennial is a plant of the future, as it is the answer to two of the gardeners' major problems, labour, and of course, water. Many of these perennials can withstand dry conditions and yet still provide us with much interest and colour in the garden.

HONOUR FOR EMERITUS PROFESSOR R. H. COMPTON

Emeritus Professor R. H. Compton

Emeritus Professor R. H. Compton will be awarded an honorary D.Sc. degree on the occasion of the Golden Jubilee celebrations of the University of Cape Town on 27th August, 1968.

Prof. Compton was Director of the National Botanic Gardens of S.A. at Kirstenbosch and Professor of Botany at the University of Cape Town for 35 years from 1919. His old friends at Kirstenbosch join in sincere congratulations on this signal honour.

Insects Found on Proteas

BY F. W. GESS

South African Museum (Natural History)

PLANTS of the genus *Protea* have associated with them a very considerable fauna of insects, remarkable not only for the number of species that are involved but also for the, in some cases, large number of individuals representing one species. The very great majority of these insects are, however, associated with the flower-head, the rest of the plant — roots, stem and foliage being comparatively free of insects. This difference between the number of insects associated with the flower-head and the rest of the plant is reflected by the comparative dearth of insects found on other indigenous genera of the Proteaceae in which the inflorescence is to us less conspicuous and to insects less attractive due to a variety of causes including the total absence of or small amount of nectar present and/or the unsuitable shape of the head. Thus Brabejum, Faurea, Leucadendron and Leucospermum, for example, have, in comparison with Protea, very few associated insects and many of these are found on parts other than the inflorescence. Leucadendron and Leucospermum flowerheads do have associated with them some insects — usually ones very common in Protea, but usually in fairly small numbers. In Leucospermum it is considered that the absence of an involucre of bracts is a limiting factor in the establishment of a large community of insects—the flower-head is simply too open and exposed. That the shape of the flower-head is an important factor is clearly demonstrated within the genus Protea—species with a deep, cup-like flower-head as is exemplified by *P. repens* (L.)L. (= *mellifera* Thunb.) have a much richer fauna than species with a widely open, saucer-like flower-head as is found in *P. arborea* Houtt. (= *grandiflora* Thunb.) (Waboom) or even in *P. cynaroides* (L.)L. A complication that must not be overlooked, however, is that the cup-like flower-head may have a more copious supply of nectar, *P. repens* being the extreme example.

I shall leave the flower-head for a while and consider the rest of the plant. The foliage of Brabejum, Faurea, Leucadendron, Leucospermum and Protea is generally of a somewhat dry, leathery and tough nature, and in common with the bark is reported to be astringent and to contain tannin or tanning materials. Insects recorded feeding on the foliage include about 20 species of moth caterpillars, several Coleoptera (beetles), interestingly enough mostly belonging to the Curculionidae (weevils), and a few bugs of various families including Membracids, shield-bugs and scale-insects, the latter preyed upon by ladybirds. In addition a Psyllid has been recorded causing galls on the leaves of Brabejum, and a species of thrips has been collected from galls on the leaves of Protea. Returning to the 20 moth caterpillars mentioned above, it is of interest that about half have not yet been recorded from plants other than Proteaceae suggesting that they may possibly be restricted to this family. The others have been recorded feeding not only on Proteaceae but on plants of several other families. If these various host-plants are examined for a possible common factor it can be seen that in many cases the food-plants have in common a non-herbaceous habit (that is, are shrubs or trees) and possess tannin in the leaves and bark. Examples of these alternative food-plants are Acacia, Brachystegia, Cassia, Diospyros, Euclea, Rapanea, Rhus, and the exotics Eucalyptus, gauva and pine. Hereby it is not suggested that tannin has anything to do with the selection of these plants as food-plants; rather it suggests a tolerance of this substance by the caterpillars in the presence of some other substance common to the plants in question and significant in the choice of the latter by the insects.

Associated with the stems are the wood-boring larvae of various beetles. These mostly belong to the family Buprestidae, commonly known as jewel-beetles. One of these species *Sphenoptera sinuosa* Cast. & Gory, attacking the Silver Tree, *Leucadendron argenteum* (L.)R. Br. at Kirstenbosch was the subject of a report published in your Journal in 1944. This and other species of this family have been found boring in Protea plants. The adults of these beetles are primarily sun-lovers and are most active during the hottest hours of the day when they can, with luck, be seen sitting on the foliage or flying rapidly and erratically from bush to bush. The females oviposit on or in cracks of the bark; older bushes or trees survive an attack, young plants with narrow stems succumb as in these the cambium as well as the bark is eaten by the larvae. The stems and roots of the Silver Tree are also bored by the larvae of *Parandra thunbergi* J.Thoms., a longicorn beetle (Cerambycidae) with which is associated the fungus *Botryosphaeria ribis*.

I shall now return to the flower-head and try to give an indication of the size and nature of the milling crowd one sees within. Firstly, however, let us consider the flower-head itself and how it changes in its nature during its existence. Three basic stages may be recognised—firstly the bud, secondly the flowering stage when the head is in its prime and pollen and nectar are produced, and thirdly the post-flowering stage when the seeds are maturing and the head gradually dries out and finally distintegrates. This is of course an extreme simplification of the situation, each basic stage, particularly the third, being divisible into further more or less well defined stages. It is however sufficient to indicate the type of change taking place in the inflorescence with increasing age. That the community of insects would change in its composition both qualitatively and quantitatively with respect to the above changes in the nature of the inflorescence is self-evident. Associated with a single flower-head one thus has an ever-changing community of insects, the nature of this community at any one time being governed by the age of the flower-head as well as by the usual ecological factors influencing any community. As indicated before, different species of Protea have flower-heads which differ with respect to shape, amount of nectar produced and other important characters, so that with respect to the plant, not only *intra-* but also *inter-*specific differences have a great influence on the composition of the associated insect communities. To this may be added differences due to space and time—that is geographical position and season, and it may be appreciated that the mass of insects one sees on looking into a flower-head is by no means of a constant or static nature, either quantitatively or qualitatively.

The number of insects species collected from flower-heads in all stages from various localities in the southern Cape is in the region of 200, involving principally the orders Coleoptera (beetles), Hemiptera (bugs), Diptera (flies), Hymenoptera (bees, wasps and ants),Lepidoptera (butterflies and moths), Dictyoptera (cockroaches), Dermaptera (earwigs), Thysanoptera (thrips) and others. In addition there are found various Arachnida including several species of mites (these usually to be found on the tips of bearded bracts), spiders and a small, brown, flattened pseudoscorpion. In terms of species the Coleoptera are the leading group, being represented by about 90 species, about a third of which are undescribed.

In terms of individuals the total number to be found within a single flower-head varies tremendously, but has on occasion been found to be as high as 1000. Here again the Coleoptera are the dominant group. For example, a single flower-head of *P. cynaroides* from Grahamstown yielded 751 individuals of which 703 were adult beetles, 628 being of one species (*Chirodica wollastoni* Baly—Chrysomelidae).

What do all these insects do in the flower-head? Here I wish to use terms usually associated with boarding-houses and shall divide the phytophagous insects found in the flower-head into two main categories which I shall term respectively the *permanent residents* and the *table-boarders*.

A permanent resident may be defined as a species which is associated with and dependent upon the Protea flower-head throughout its life-history. In other words, to qualify for this category the nymph or larva of the insect must be totally dependent on the Protea flower-head while the adult is also bound to the plant for the purpose of feeding, if it does feed at all, and for the purpose of oviposition. Insects falling into this category are naturally inseparable from the Proteas (or other Proteaceae) and their distribution is limited within the confines of the distribution of these plants. Generally the distribution of the insect is not as extensive as that of the host-plant.

A few examples of permanent residents are the following—among the Coleoptera: two species of Euderes and two of Tanaos (both genera belonging to the Curculionidae or weevils) whose larvae bore in the receptacle at the base of the flower-head and whose adults feed on the leaves and involucral bracts respectively; *Pria cinerascens* Er., a small Nitidulid which feeds on pollen in both larval and adult stages; and probably *Genuchus hottentotus* F., a Cetoniid whose larvae and adults are frequently found in older flower-heads. Among the bugs there is the Lygaeid *Oxycarenus maculatus* Stal, whose pinkish nymphs and small white-patterned black adults are most common in older flower-heads and are believed to suck the sap from the developing seeds. Other species of Oxycarenus from tropical Africa are known as cotton-seed bugs.

My last example of a permanent resident is a Lycaenid butterfly, *Capys alphaeus* (Cram.) and as this species is large, more conspicuous and probably better known to you than the others, it has been chosen as the species to be looked at somewhat more closely. The adult butterfly, whose wingspan is about 1½ inches across, is glossy brown to black with a large submetallic red area in the centre of each wing. It is frequently found settled on the leaves of Proteas. The adult female lays her eggs on the exterior of the unopened Protea buds—on the bracts. To penetrate into the bud the newly hatched larva eats its way through the bracts at the basal end of the bud and once inside the bud destroys the developing reproductive parts so that frequently nothing remains of the bud but the enveloping bracts. When approaching maturity the larva gnaws a tunnel leading downwards through the receptacle into the stem and ending at an exit hole, large enough for the escape of the future butterfly, situated just below the level of the lowest bracts. Pupation takes place in this tunnel and the butterfly later emerges from the exit hole. An interesting feature of the larva is that the terminal segment is fitted with a circular hardened shield which just fits the exit hole and thus serves to protect the larva where it is exposed to the outside world. If the Protea bud is young when attacked and eaten out, development of even the undamaged parts is arrested and the unopened bud dies off and dries up. Several species of Protea have been recorded as being attacked by this insect, but in my experience the species most commonly utilised by this insect in the Cape Peninsula and generally in the coastal districts as far east as Grahamstown is *Protea cynaroides*. The distribution of *Capys alphaeus* (Cram.) and that of two other closely related congeneric species of identical habits, *C. disjunctus* Trim. and *C. penningtoni* Riley together closely follows the distribution of the genus Protea in the Cape Province, Natal, the Transvaal and Rhodesia, but unlike their host-plants the insects do not extend northwards through East Africa to Abyssinia, nor are they found in Angola.

The second main category into which we divided the phytophagous insects found in the Protea "boarding house" comprised the table-boarders. A table-boarder in the present sense may be defined as an insect which is associated with the Protea flower-head in its adult stage only, the larva making its living elsewhere. Furthermore the table-boarder comes to the flower-head primarily for the pollen and nectar which the latter contains. The association between the insect and the flower-head may or may not be a close one—honey bees, for example, which frequently visit Proteas to collect pollen and nectar are table-boarders by the above definition but also visit thousands of other species of Angiosperms for the same reason and would thus not be inconvenienced at all if Proteas ceased to exist. They are thus the most casual and least closely associated table-boarders. On the other hand there are table-boarders which are so closely associated with the genus Protea that they can be considered as among the most typical Protea-insects, and, apparently cannot exist without these plants. An outstanding example of this type is *Trichostetha fascicularis* (L.), a large Cetoniine Scarab, commonly known as the Green Protea Beetle and very frequently seen among the Protea bushes at Kirstenbosch.

The larva of this beetle is apparently unknown but judging from the habits of closely related species probably occurs in the ground among roots, in decaying wood or in accumulations of dead leaves and other plant refuse. It thus has nothing to do with Protea plants. The adult beetle on the other hand is found only in association with Proteas and investigation has shown that it visits the flower-heads in order to feed on nectar. In its struggles to get to the bottom of the flower-head to reach the accumulation of nectar, it frequently disarranges and even damages the reproductive parts of the flower-head, this being quite marked when several beetles are at work simultaneously. In contrast to related Cetoniine beetles such as *Pachnoda rufa* DeGeer, a destructive fruit-nibbling species damaging ripening or ripe apples and other fruits, *Trichostetha fascicularis* (L.) has mouthparts capable only of dealing with liquid food. The strong teeth and ridges present on the maxillae and mandibles of Pachnoda are entirely absent in Trichostetha which in their place possesses a dense brush of hairs on the tip of each maxilla. These brushes work in a similar way to Man's paintbrush and the mechanism of feeding is the repeated dipping of these brushes into the nectar, alternated with the withdrawal of the then nectar-laden brushes into the normal position between the other mouthparts where the nectar is squeezed out and swallowed. This dipping movement of the maxillae can be clearly seen if a previously starved beetle is placed on blotting paper saturated with sugar water. That feeding is actually taking place can be shown by the addition of a dye to the sugar water and by subsequent exposure and examination of the gut of the killed and dissected beetle.

Being dependent on the Protea for its nourishment as an adult and therefore probably also for the production of eggs, this beetle's distribution is governed entirely by the distribution of its host-plant. Within the Republic it occurs wherever the Protea grows, and even small isolated islands of Cape vegetation have this beetle associated with its host-plant. A striking instance of this was the presence of the beetle at such an island of Cape vegetation surrounded by Karoo on a hill situated near the national road between Touws River and Constable. While the beetle occurred within this vegetational island, two weeks' extensive collecting in the surrounding Karoo vegetation from which Protea was absent, yielded not a single specimen. This beetle is more typical of South Africa than the Protea, our national flower, for while the latter extends beyond our borders, the beetle is endemic and has never been recorded from across the Limpopo. The study of its distribution is made even more interesting by the existence of three colour varieties; the common green variety inhabiting the Western Cape and the coastal areas eastwards to the Albany Division; a rare, white-spotted, dark brown variety known from the north-eastern Cape, and an unspotted light brown variety from Natal and the Transvaal.

A brief comment on the behaviour of Trichostetha with respect to the Protea flower-head may be of interest. The beetle is a strong and rapid flier, looking when on the wing something akin to a large carpenter bee and making a similar buzzing noise. The recognition of the Protea flower-head by the flying beetle at some distance from it is in the first place by means of vision, the beetle's attention being drawn to it possibly by its shape or its silhouette or even by the colour of the bracts which contrast with the green of the foliage. That some Scarabaeid beetles are sensitive to colours is shown by the fact that monkey-beetles and the North American pest the Japanese Beetle are attracted to yellow-painted traps, while rose beetles have been observed to be attracted more to roses of one colour than another. In an experiment at Kirstenbosch with an artificial, pink, plastic Protea flower-head tied to a Protea bush, Trichostetha beetles were attracted to it and inspected it on 23 occasions within a period of 75 minutes. This inspection of the artificial flower-head which took place at close quarters —one to three inches, consisted of the beetle hovering briefly in front of it. On no occasion was this inspection of the artificial flower-head followed by settling on it and creeping inside it as is the normal consequence of inspection of a genuine Protea flower-head. The addition to the artificial flower-head of concealed pieces of genuine floral parts, however, brought about a dramatic change in the reaction of the beetle to inspection, for during the same period of time (i.e. 75 minutes), 32 inspections were followed in 66% of cases by the beetle settling on the artificial bracts and crawling into the artificial flower-head. It is thus clear that the first impression gained by the beetle at a distance by visual means is reinforced or destroyed during inspection at close quarters when the decision to alight and crawl into the flower-head is made after satisfactory olfactory stimuli have been received.

An ornithological observation made during these experiments was that the empty, odourless artificial flower-head was twice visited by a female Orange-breasted Sunbird which hovered in front of it, then alighted on the plastic bracts and put her beak into the artificial flower-head.

Up till now we have considered only phytophagous insects—insects which because they feed on the plant or on the pollen and nectar produced by it may be considered to be directly associated with it. To be considered now is another category of insects which do not feed on the plant or its products but are yet associated with it by virtue of their relationship with the phytophagous insects. These insects are the predators and parasites—those insects which find their prey and hosts among the insects directly associated with the plant. Some of these predators are so frequently found in the flower-head that they too may appear to be typical inhabitants.

Among the predators one may list, among the beetles, several species of Carabidae, Cleridae, Staphylinidae and an Histerid—*Platysoma capense* Wied. This latter insect is a small, black, shining, greatly flattened species which when alarmed simulates death and closely retracts its antennae and legs beneath the body. It is almost invariably present in the flower-heads and occurring there both as an adult and as a larva may be considered to be a permanent resident of the predacious category. Other predators include assassin bugs, earwigs and spiders.

Finally one finds on Protea plants insects which are not dependent on them for nourishment either directly or indirectly and whose status is merely that of shelterers which use, for example, the old, dry flower-heads as a place of refuge or concealment; others which in flying past settle on the plant by chance, and still others such as Cremastogaster ants, wasps and solitary bees which build their nests on the bushes and where any other species of bush would have done as well.

I hope that this short account of the Insects found on Proteas has indicated the size and complexity of the fauna to be found in association with one small group of plants, and has shown the fascination of compiling a who's who of such a fauna.

Disa Hybrids

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The Red Disa is undoubtedly one of the most attractive of the South African orchids from a horticultural point of view. During the past few years *Disa uniflora*, and the hybrid *D. Veitchii* remade by Mr. K. Johnson, have been a feature in the show greenhouses at Kirstenbosch during the summer months. However, it is not widely known that some species of South African Disas, and many hybrids raised from them, were successfully cultivated in England and France about the turn of the century. The culture of some of the plants must have been phenomenal by present day standards, as Williams records a spike of *D. uniflora* grown at Chatsworth bearing twelve flowers.

Although a dried plant of *D. uniflora* had reached Bergius in Sweden by 1767, the first specimen of this unusual species only reached England in 1794. This was among a collection of dried plants from the Cape aboard a French ship captured by an English privateer off St. Helena in 1793 and subsequently bought by A. B. Lambert and G. Forster, when this collection was auctioned in London.

However, it was not until 1825 that *D. uniflora* was first flowered in England and illustrated in Edward's Botanical Register. The next species of Disa, *D. racemosa*, was introduced to British horticulture by Mr. Watson, then foreman of the propagating department at the Royal Botanic Gardens, Kew, as a result of his visit to South Africa. This species first flowered in England in 1887, and two years later *D. tripetaloides* was also successfully introduced.

The first artificially made orchid hybrid had already been flowered in England in 1856, and the raising of artificially made hybrid orchids, albeit on a very small scale, soon became popular and often profitable. Consequently it is not surprising that the two largest flowered species of Disa available in Europe at that time were hybridised. Judging from the variety of hybrids made about that time, it is almost certain that Veitch was not planning to combine the best characteristics of the two parents that he used, *D. uniflora* and *D. racemosa*, to produce the first Disa hybrid named *D. Veitchii* on its first flowering in 1891. It was described as having flowers "intermediate in size between the two parents, of a pleasing rosy-purple colour". This aptly describes the progeny at Kirstenbosch of the remake of this hybrid by Mr. K. C. Johnson. Unfortunately none of the progeny have inherited the brilliant red colour of the *D. uniflora* parent but they do show hybrid vigour and open their flowers in succession over a comparatively long period.

Veitch bred *D. Veitchii* back on to both *D. uniflora* and *D. racemosa*, which produced *D. Diores* (in 1895) and *D. Luna* (in 1902) respectively. (Fig. 1.) About the same period, the comparatively small pink flowered *D. tripetaloides* was used as a parent of Disa hybrids raised at the Royal Botanic Gardens, Kew. In 1893, *D. Kewensis* (*D. uniflora* X *D. tripetaloides*) and *D. Premier* (*D. tripetaloides* X *D. Vietchii*) both flowered for the first time. The latter was described by Williams as having spikes about two feet high bearing rosy-magenta flowers one and a half inches across. *D. Kewensis* was backcrossed on to *D. uniflora*, producing *D. Watsonii* which first flowered in 1900, but no record of its appearance is available here. (Fig. 2.)

Messrs. Veitch's work in hybridising Disas was continued by their successors, Messrs. Black and Flory of Slough, near London. It seems that only *D. Luna* of the Veitch hybrids was available at that time for hybridisation, and after an initial backcross to *D. racemosa*, to give *D. Blackii* in 1915, successive backcrossings to *D. uniflora* were preferred to produce *D. Italia* in 1918 and *D. Julia A. Stockley* in 1922. (Fig. 1.) According to Mr. Peter Black (in litt.), the present director of Messrs. Black and Flory, there is unfortunately no record of the floral characters of these later Disa hybrids. What remained of the stock of these later hybrids apparently perished before or during the Second World War.

From the point of view of orchid breeding, it seems unfortunate that *D. Diores* has not been remade and it, or even *D. Veitchii*, selfed, in the hope of producing at least one clone combining the colour of *D. uniflora* and the vigour of *D. Veitchii* even if some reduction in flower size proves to be an unavoidable sacrifice.

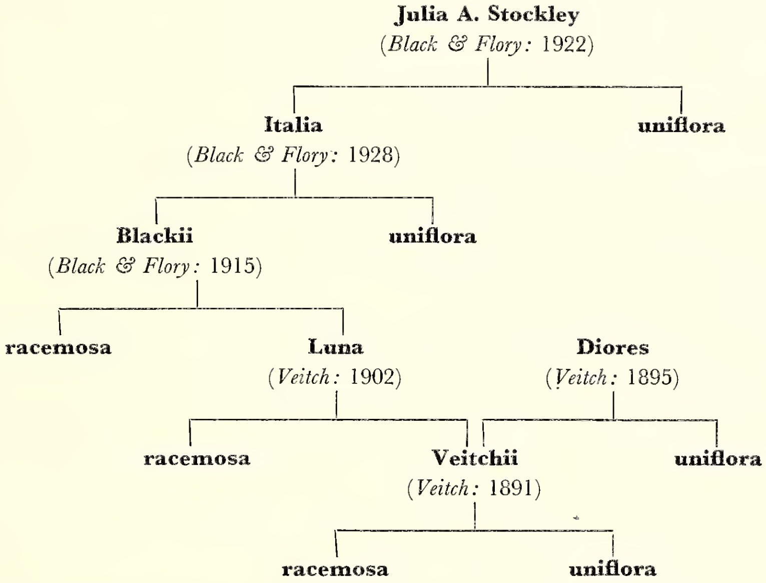


FIG. 1. Diagram showing the breeding of hybrids from *Disa uniflora* and *D. racemosa* developed by Messrs. Veitch and their successors Messrs. Black and Flory. The name of the raiser of each hybrid and the date of first flowering or registration is given in brackets.

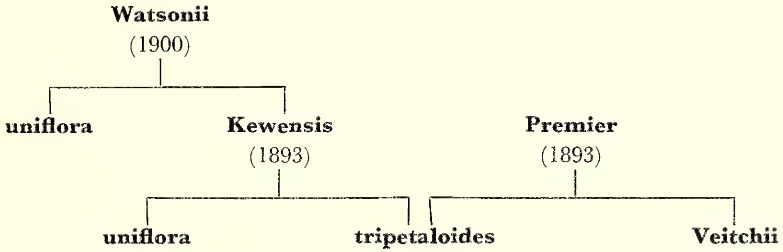


FIG. 2. Diagram showing the parentage of Disa hybrids raised at the Royal Botanic Gardens, Kew, and the year in which they first flowered.

Die Plant, Die Mens en die Omgewing

met speciale verwysing o.a. na Die Botanical Gardens, New York

Wim. J. Tijmens

Kurator, Hortus Botanicus, Stellenbosch, K.P.

Lecture given to members of the Botanical Society of South Africa, on 7th May, 1968, in the Botany Department Lecture Hall, University of Cape Town.

INTRODUCTION:

Mr. Chairman, members of the Botanical Society, ladies and gentlemen, as an old staff member and member of your Society, I am very privileged to be with you this evening. When your secretary persuaded me to present a paper on similar lines as the public lecture I gave at the University of Stellenbosch during 1967, I accepted the invitation for the two following reasons:

(*a*) First of all because there were *no* ties attached to this invitation and when I say this I particularly think of an invitation to lecture to the members of the New England and Wild-flower Preservation Society in Boston during my stay in the United States. The secretary of this Society, however, clearly stated that the members would prefer a most emotional lecture as previous speakers had been the late Miss Rachel Carson, well-known for her book "Silent Spring" and June Adamson, the author of "Born Free". Especially the last speaker had left the audience in tears as all were most concerned about Elsa, the little lion.

(*b*) Secondly, I accepted your secretary's invitation because this subject covers such a wide field that my problem was not to gather material, but to eliminate much, as it can be approached from so many angles.

It is also not the intention to discuss the numerous specialised scientific aspects of Plant, Man and Environment—subjects such as genetics, nutrition, plant physiology, air pollution, regional planning, ecology, landscape planning and others. This would be an impossible task and has to be left to those specialists who are prepared to discuss their specialised field as part of the relationship Plant, Man and Environment.

INTERNASIONALE KONGRES

Tydens die bywoning van die Internasionale Kongres vir Tuinbou en Biologie wat in Augustus 1966 aan die Universiteit van Maryland gehou is, was daar oor die 5,000 afgevaardiges van 54 verskillende lande, o.a. Rusland was verteenwoordig. Daar is tydens die kongres wat een week geduur het, oor die 600 referate gelewer. Dit toon nie alleen aan hoe gespesialiseerd, maar ook hoe gekompliseerd die voortdurende wisselwerking tussen die plant, die mens en die omgewing is.

Dit het weer duidelik geblyk dat ons met al die sintetiese stowwe in 'n „kits" lewe, tog nog nie sonder the plante sal kan klaarkom nie. Kortom dat daar sonder plante geen mens en dierelewe op die aarde moontlik sal wees nie. Die mens oefen gedurig invloed uit op sy omgewing, en verstoor daardeur dikwels die biologiese ewewig. Groot somme geld moet dan bestee word om die ewewig te herstel. Dink slegs aan die besoedeling van water en lug, essensiële faktore vir die lewe van plante, mense en diere.

WÊRELD BEVOLKING

'n Angswekkende verskynsel is ook die toename van die wêreld-bevolking met 6,000,000 per jaar, 'n getal wat volgens die statistieke nog elke jaar sal toeneem. Die wêreldbevolking was in 1955, 34 biljoen en sal teen die jaar 2,000 meer as verdubbel. Die geweldige toename van die bevolking sal net die hongersnood veral in die tropiese en subtropiese gebiede sorgwekkend verhoog. Dis dringend noodsaaklik dat die regerings bewus raak van die noodsaaklikheid om hoër bedrae as wat tot nog toe die geval is, vir tuinboukundige navorsing beskikbaar te stel.

Die F.A.O., ,,Food and Agricultural Organisation", 'n onderdeel van die Vereenigde Volke Organisasies bestee slegs 4½ miljoen dollars in 22 lande aan tuinboukundige navorsing, 'n uiters geringe bedrag as ons dit vergelyk met die koste van bv. een straalvliegtuig.

NATUURLIKE PLANTEGROEI

Met die bevolkingstoename het ook die natuurlike plantegroei in die gedrang gekom en die departemente van natuurbewaring doen baie moeite om nog soveel moontlik te red. Dat die openbare mening hierby ook 'n belangrike rol speel, blyk uit die feit dat dit onlangs gekeer het dat groot kragsentrales in die Grand Canyon gebou is.

Op die oomblik is die Sequoias of reuse ,,Redwoods" weer in die gedrang en ons steun al die Amerikaners wat hierdie wonderlike bome wil red. Ons kan almal hieraan meewerk deur briewe van protes te skrywe aan die lede van die Amerikaanse Senaat en almal wat betrokke is met die wetgewing vir die beskerming van die Sequoias. Daar is 'n spesiale komitee saamgestel wat veg vir die behoud van genoemde bome en hulle verdien nie alleen die ondersteuning van die Amerikaners self nie, maar van almal wat die waarde van 'n dergelike erfenis kan waardeer. Soos die Suid-Afrikaners belang het by die voortbestaan van die Redwoods, die duisendejare oue bome, so stel die Amerikaners wederkerig belang in die Flora en Fauna van Suid-Afrika.

Ons moet by die beplanning van natuurreservate, parke en ontspanningsruimtes ook in aanmerking neem dat die mens steeds in beweging is. In die Verenigde State alleen is daar byna 200 miljoen mense wat gedurig beweeg oor 300 vierkante myl hoofpaaie. Namate die mobiliteit groter word neem die digtheid toe en hieruit spruit voort die noodsaaklikheid vir betere beplanning. U sal verstaan dat dit nie bevorderlik is vir 'n harmoniese wisselwerking tussen die Plant, die Mens en die Omgewing nie. Daar is egter ook positiewe kante aan hierdie saak. Lady Bird Johnson, die eerste dame van die Verenigde State, beywer haar baie vir die verfraaiing van die stede en paaie.

LYNDON B. JOHNSON

Haar invloed kom ook tot uiting in die toespraak van President Lyndon Johnson, tydens 'n konferensie wat in die White House gehou is, vir die opstel van 'n Wet vir die Bewaring van Natuurskoon. Ek haal die volgende aan uit sy openingstoespraak:

Statement by President B. Johnson on Natural Beauty

> "The beauty of our land is a natural resource. Its preservation is linked to the inner prosperity of the human spirit. Our land will be attractive tomorrow only if we organise for action and reserve and reclaim the beauty we have inherited. Our stewardship will be judged by the foresight with which we carry out these programmes". . . . The President stated later: "These bills are evidence of our determination not to be a neglectful generation. Their passage will ensure this Congress the gratitude of future generations who will be allowed to enjoy the same gifts of nature which are our heritage".

Met eerbied en waardering is daar gedurende die talryke kongresse wat ek bygewoon het, melding gemaak van die uitstekende werk wat deur Lady Bird Johnson gedoen word. Haar diepe belangstelling het ook geblyk uit die brief wat ek ontvang het, na aanleiding van die foto's en publikasies oor die Hortus Botanicus van die Stellenbosse Universiteit, wat ons gedurende ons besoek aan die White House daar gelaat het. Hoeveel daar egter ook al gedoen word, die vraag bly nog altyd staan of ons op die lang duur sterk genoeg is om 'n beleid van natuurbewaring—ekologie—en humaniteit te handhaaf.

BOTANIESE TUINE

Deurdat Botaniese Tuine plante van oor die hele wêreld in hulle versamelings opneem, vorm dit 'n noue skakel tussen die mens en die lewende natuur. 'n Skakel wat 'n betere verstandhouding tussen die plant, die mens en die omgewing sal bewerkstellig. Sedert die Middeleeuse Europese Kruidtuine het die Botaniese Tuine oor die hele wêreld 'n belangrike ontwikkeling ondergaan. Terloops wil ek opmerk dat die Hortus Botanicus van die Stellenbosse Universiteit die oudste in die land is, en dit het duidelik geblyk dat hulle 'n steeds groter rol in ons samelewing sal vervul.

Behalwe die beskikbaarstelling van plantmateriaal aan die student in plantkunde, die navorsingsprojekte, die tuinboukundige funksies, lewer die tuin diens aan die publiek deur die verstrek van inligting omtrent die verbouing van bepaalde plante. 'n Belangrike taak van Botaniese Tuine is ook die instandhouding en uitbreiding van hulle plantversamelings. Botaniese Tuine van oor die hele wêreld ruil gedurig plante en sade uit. Deur die Internasionale vereniging vir Botaniese Tuine word op die oomblik proewe gedoen om die plante wat in Botaniese Tuine oor die hele wêreld voorkom in 'n elektroniese rekenaar vas te lê. Indien voldoende aandag gegee word aan die estetiese uitleg van Botaniese Tuine kan hulle ook in belangrike mate bydra tot die passiewe ontspanning van die mens.

OPVOEDKUNDIGE WAARDE

In Amerika word veral ook aandag gegee aan die opvoedkundige waarde van die Botaniese Tuine. Die Brooklyn Botaniese Tuin is 'n goeie voorbeeld van die veelsydige take wat deur 'n Botaniese Tuin verrig word. Spesiale programme word opgestel vir skoolkinders, sowel as volwassenes. Nie alleen word die kinders deur die personeel rondgelei nie, maar ook word die stadskinders geleer om hulle eie groente en blomme te kweek in 'n deel van die tuin wat vir hierdie doel bestem is.

Baie van die kinders wat so in kontak gebring is met die lewende natuur, skryf later as volwassenes in vir die kursusse wat deur die Departement vir die opvoeding van Volwassenes in die Brooklyn Botanical Garden gereël word. Dis darem goed dat daar in New York kinders is wat weet dat piesangs nie uit die fabriek gekom het nie, maar van lewende plante en dat bv. vanielje berei word van die vrug van *Vanilla planifolia*, die enigste orgidee wat ekonomiese gebruikswaarde het. Elke jaar word daar in die Brooklyn Botaniese Tuin ongeveer 30 verskillende kursusse gegee deur lede van die personeel, of deur deskundiges van elders, wat versoek word om bepaalde kursusse te lei. Dikwels is daar so baie inskrywings dat 'n waglys opgestel word. Daar word klasse gegee tydens die dag, sowel as in die aandure.

Behalwe die teorie word aandag gegee aan die praktyk. Onder toesig van die direkteur en lede van die personeel, o.a. mnr. Okamura maak die leerlinge wat die kursus in Bonsai volg hulle eie dwergplante, wat hulle dan na die huis kan neem.

'n Greep uit die programme van die Brooklyn Botanical Garden toon duidelik aan die verskeidenheid van onderwerpe waarin klasse aangebied word:

Propagation
Desert Gardens and Terrariums
Decorative Designs
Mulches—Winter and Summer
Glasshouse Gardening for Parents and Children
Plants of the Future
Rooftop Gardens
Bonsai for Beginners and Advanced Bonsai
The Plants people eat
Projects Botany
Creative Ideas in Garden Design
How plants are identified
Wild Flowers and Native Trees

Ons sou nog lank kan aangaan met hierdie lys van onderwerpe waarin die plant self altyd die essensiële deel is waarop die kursusse gerig is. Die Brooklyn Botaniese Tuine beslaan 'n oppervlakte van net oor die 50 akkers. Daar word baie aandag bestee aan die uitleg van die gronde en daardeur is dit moontlik dat verskillende tuine in een en dieselfde Botaniese Tuin aangetref word. So vind ons die veldblommetuin, van plante wat inheems is in die Staat van New York, die Japanse Tuin met die Ryoanji Tempeltuin, die Roostuin, Kruietuin, Tuin vir die Blindes, Rotstuine, Waterdamme, die Terrasse uitleg en natuurlik die kompleks van glashuise. Die tuine trek elke jaar 1,600,000 besoekers. As ons weet dat daar binne 'n radius van 20 myl van die sentrum van die Stad New York 20 miljoen mense woon, dan sal u verstaàn dat die aantal besoekers aan die Botaniese Tuin seker nog sal toeneem.

Die personeel is saamgestel uit 'n direkteur en 70 lede, dit sluit ook in die personeel wat verbonde is aan die tuin se navorsingsentrum in Kitchawan. In laasgenoemde sentrum wat 50 myl buite New York lê, word o.a. die invloed van lugverontreiniging op plante bestudeer.

FONDSE

Dit is vir my altyd weer verbasend om te sien vanwaar die Amerikaners die fondse kry vir die verbetering van hulle tuine en die uitbreiding van die veelsydige funksies. Die Brooklyn Botaniese tuin maak, net soos dit die geval is met die Brooklyn Museum en die Akademie vir Musiek, deel uit van die Brooklyn se Instituut vir Kunste en Wetenskappe. Die jaarlikse begroting van die Tuin alleen is byna 'n half miljoen dollars. Die helfte kom van die Stad New York en die ander 50% uit die rente van die skenkingsfonds van die tuin. Die Botaniese Tuin het baie vriende en baie lede wat die skenkingsfonds op die oomblik opgestoot het tot die nie onaansienlike bedrag van 4 miljoen dollars.

DIE OMGEWING

'n Ander interessante aspek van die Brooklyn Botanical Garden, hoewel dit in die eerste plaas 'n Botaniese Tuin is, is dat dit ook bewys lewer dat die tuine, die plante dus, 'n baie gunstige invloed uitoefen op die aantal misdade wat elke jaar in Brooklyn voorkom. Die syfers lê naamlik laer in die naaste omgewing van die Botaniese Tuin, as in die ander dele van Brooklyn. Die heilsame invloed van die plante op die menslike gees het ook geblyk uit die rekords wat Anglo American Mining Corporation opgestel het. Die aantal Bantu mynwerkers wat van die werk weggebly het is naamlik baie minder by die mynskagte wat behoorlik met sierplante verfraai is, as by die skagte waar dit nie die geval is nie.

DIE HORTUS BOTANICUS

Kyk ons nou na die Universiteit van Stellenbosch se eie Hortus dan sal u verstaan na voorgaande dat veral die opvoedkundige funksies uitgebrei sal kan word deur bv. vir die skoolkinders natuurstudie klasse in die Hortus self te reël. Dit is egter tragies dat die leerprogramme van ons skole hiervoor nie voorsiening maak nie. Ook moet dit moontlik wees in samewerking met die Dept. van Plantkunde, die Dept. van Ontwikkeling van die Universiteit en ander deskundiges, kort kursusse, soos dit oorsee gedoen word, vir volwassenes op te stel. Die onderwerpe vir hierdie kursusse moet dan aangepas wees aan die plaaslike omstandighede en die belangstelling van die publiek. Seer seker sal dit 'n leemte vul want elke dag kry die personeel van die Hortus tientalle vrae te beantwoord omtrent bepaalde plante, hulle verbouing, siektes, ens.

U mag miskien opmerk dat die bevolking in Stellenbosch en omgewing maar baie klein is in vergelyking met Brooklyn, wat byna vier miljoen inwoners het. Ek stem heeltemal saam, maar wil dan net opmerk dat die Regering van Ysland wat slegs 'n bevolking het van 220,000, ons met trots gewys het op die glashuise en tuin wat spesiaal ingerig is om die kinders sowel as die volwassenes van Reykjavik nader te bring tot die wonders van die natuur. 'n Merkwaarlike prestasie vir 'n land, waar die mens onder dikwels moeilike klimatologiese omstandighede 'n harmoniese eenheid vorm met die plant en sy omgewing.

DIGTERS EN SKILDERS

Naas die wetenskaplikes lewer ook die kunstenaars soos digters en skilders 'n belangrike bydrae tot die mens se kennis van die natuur. Hulle laat 'n mens die wêreld sien soos hulle dit aanvoel. Dink slegs aan die pienk-pers berge van Pierneef se skilderye. Lees ook die gedigte van die Vlaamse natuurdigter, Guido Gezelle wat oor 'n waterkewertjie kon skrywe:

O krinkelende winkelende waterding
met 't swarte kabotseken aan. . . .

en die pragtige gedig oor die blomme aan die peerboom:

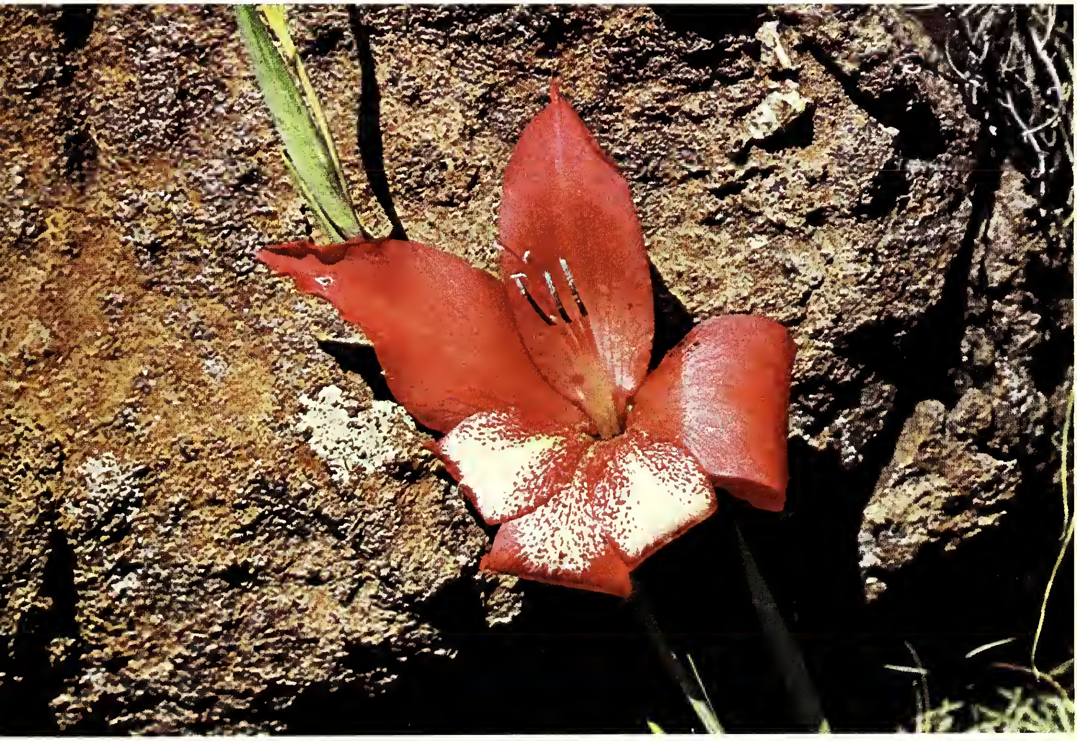
Nog eer de blâren schieten
  in 't hofbeluik,
hoe geren sie'k u sprieten
  o perenstruik;
hoe geren zie'k u takken
vol blommen staan,
vol perels, al in pakken
  eer ze opengaan.

THE WILD FLOWERS OF THE NATAL DRAKENSBERG

W. R. TRAUSELD

Prospectus

The Trustees of the Drakensberg Wild Flowers Book Fund have much pleasure in announcing the forthcoming publication of the book "*The Wild Flowers of the Natal Drakensberg*" by W. R. Trauseld.



Gladiolus cruentus S. Moore (= *G. saundersiae Hook. f.*)

This is one of the Colour Plates included in the book.

To be published by PURNELL SOUTH AFRICA
— the Publishers of "*Ericas in Southern Africa*".

THE DRAKENSBERG WILD FLOWERS BOOK FUND

For the publication of "*The Wild Flowers of the Natal Drakensberg*"
by W. R. Trauseld.

TRUSTEES
The Wildlife Protection and Conservation Society of South Africa — Natal Branch.

CORRESPONDENCE
P.O. Box 2985,
Durban.

This magnificent work will be the first book to deal with the wild flowers of the Natal Drakensberg — one of the most spectacular and beautiful parts of the Republic of South Africa.

The colour slides from which all the illustrations have been produced are part of a comprehensive collection made by the author over a period of years and include some very rare species as well as some undescribed species. In certain cases close-up photography has been resorted to, to show up special features of a particular flower, thus assisting identification.

All the specimens from which the transparencies were made have been identified by, and are housed in, the National Herbarium, Pretoria. The work is thus an authoritative one.

The text is in simple language throughout and the species have been arranged in systematic order according to Phillips's "*Genera of South African Flowering Plants*".

There are no less than 100 colour pages, each depicting eight different illustrations, seven of which adorn this brochure — all are of plants in their natural habitats.

No more suitable person than the author could have produced this book. During the past fourteen years Bill Trauseld has been a game-ranger with the Natal Parks, Game and Fish Preservation Board and stationed in the Drakensberg. His dexterity at mountaineering and his great love for wild flowers encouraged him to build up a comprehensive photographic record of the large variety of species in this region. Due to the difficulties of identification from colour slides, specimen collecting became necessary and this has resulted in the correct nomenclature.

Following the same procedure as that adopted for other works of this nature, the Trustees have decided to ask for subscriptions, and to issue a special De Luxe Subscribers' Edition. This edition will be strictly limited to 500 copies, to subscribers contributing a minimum of R25.

Each of these books will be specially bound, numbered, bear the subscriber's name, and be signed by the author. The Trustees invite you to become a sponsor by subscribing R200 (£100) or more. A list of both Subscribers and Sponsors will be included in the book.

In addition to the intrinsic value, this limited edition will have a special interest for collectors of Africana.

To ensure that Subscribers' names are included in the published list, **early application is essential, preferably by air mail.** Late applicants will receive numbered and signed Subscribers' copies but it will not be possible to include their names in the published list.

The Trustees will be grateful to receive the names and addresses of anyone likely to be interested in this Special Edition.

Local cheques should be crossed and made payable to The Trustees, The Drakensberg Wild Flowers Book Fund, P.O. Box 2985, Durban, South Africa. Remittances from Europe, America, Australasia, etc., should be made by Money Order, Postal Order or Bank Draft to comply with currency regulations, and sent by air mail. It is regretted that overseas cheques are unacceptable.

PUBLICATION 1969.

Your generous support will be greatly appreciated by the Trustees.

PLEASE WRITE CLEARLY IN BLOCK LETTERS

Date...19...........

To The Trustees,
The Drakensberg Wild Flowers Book Fund,
P.O. Box 2985,
DURBAN,
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Dear Sirs,

Please enter my name in the List of Subscribers for .... copy/copies of "*The Wild Flowers of the Natal Drakensberg*" Special De Luxe Edition, for which I enclose Rand.., the book/s to be despatched to me by Registered Book Post immediately on publication.

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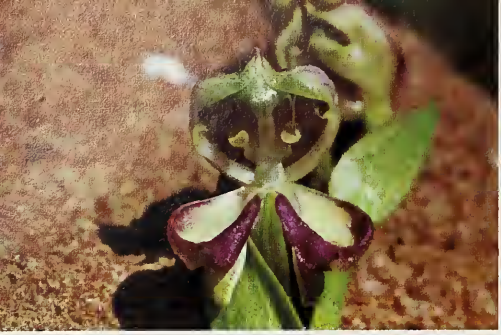
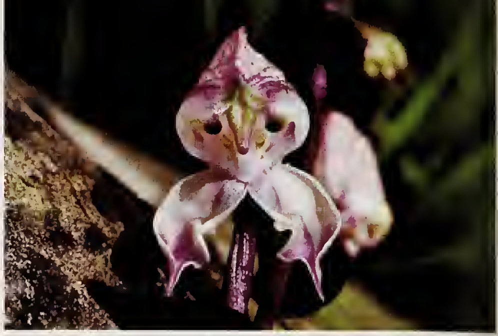
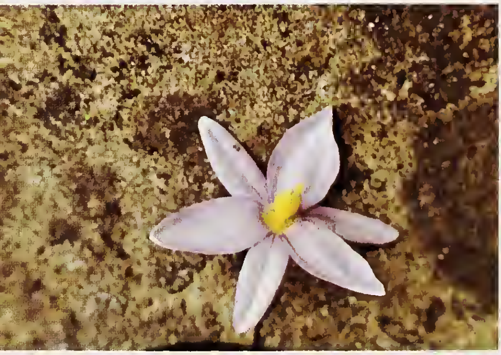


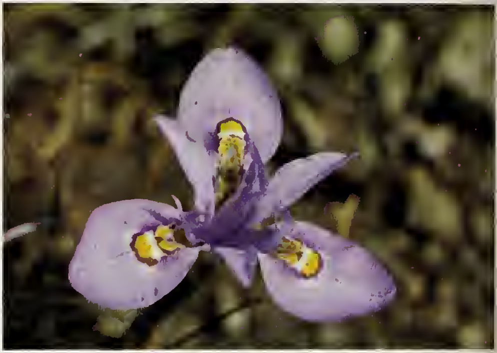
Disperis sp.



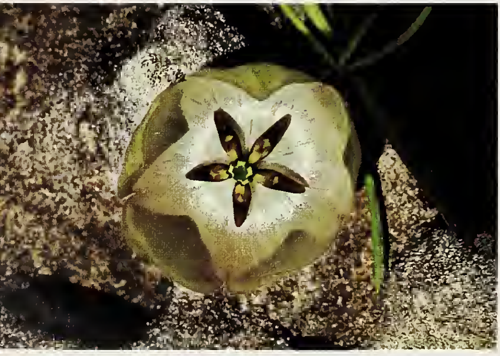
Disperis stenoplectron Reichb. f.



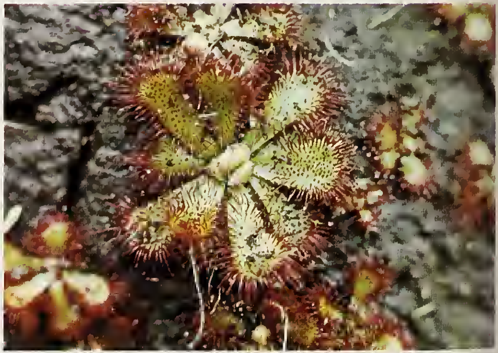
Vellozia talbotii Bak.



Moraea trita N. E. Br.



Pachycarpus campanulatus N. E. Br.



Drosera natalensis Diels.

Should surplus funds accrue after the publication of the Standard Edition of "*The Wild Flowers of the Natal Drakensberg*", such funds will be devoted to Nature Conservation or other interests at the discretion of the Trustees.

Ook tal van Suid-Afrikaanse digters en skrywers het die natuur nader aan die mens gebring. So het Langenhoven bv. geskryf: Ek haal aan uit „Ons Weg deur die Wêreld":

> Daar was plekkies vir worteltjies om vas te klou—en toe het die Here omdat die voorsiening daar was, die voorraad gebring—want Hy maak niks verniet nie. Langsamerhand eers met die eenvoudigste gewassies, het Hy die aarde met groen beklee—dit was die begin van Sy tuin—want hy het tyd—baie, baie tyd.

Van watter gesigspunt ons egter die onderwerp ook al beskou, of dit van die wetenskaplike of van die kunstenaar is—dis duidelik dat Botaniese Tuine 'n uiters belangrike skakel vorm in die verhouding Plant, Mens en Omgewing.

(Mnr. Tijmens het die onderwerp dan verder met kleurskyfies toegelig.)

Edith Layard Stephens

A Tribute compiled by Mrs. Enid du Plessis

Guide-Lecturer, National Botanic Gardens, Kirstenbosch

At the suggestion of the Cape Natural History Club, it was decided to compile a series of reminiscences of Edith Layard Stephens from the storehouse of memories of those who knew her well. Miss Stephens' private life could hardly be separated from her first love, which was all aspects of natuarl history, and in her later years more particularly fungi. Anyone who had visited her house during the fungal season and opened her refrigerator must often have wondered how "Cookie" could have produced a meal. Miss Stephens the botany teacher, also emerges as a distinct and well-loved personality.

Probably the best known story about Miss Stephens which has been recalled by manyfriends, the one which she herself always laughed at, was when she was studying the aquatic flora of a vlei below Valkenberg, and one of the officials took her off, protesting, thinking she was an escapee from the institution. It cost Miss Stephens much arguing and many phone calls before she was identified and rescued. When I arrived in Cape Town in 1952 this was one of the first stories I heard, but I frankly didn't believe it until a few months later I went with Miss Stephens to a Cape Flats vlei in search of volvox. When she appeared in her collecting garb, boots, bloomers, smock, hat, bottles and net—I knew the Valkenberg stories must be true!

Edith Stephens was born in Cape Town in 1884, where she received her education. Mr. Bill Zahn, retired forester, remembers swopping lunch sandwiches with her at nursery school.

Miss Stephens was an outstanding student at the South African College (later the University of Cape Town). In 1906 she won the gold medal for science and the Queen Victoria scholarship, and in 1907 the 1881 Exhibition scholarship.

She continued her education at Newnham College, Cambridge. In Cambridge she met R. H. Compton, later Professor Comptom, Director of Kirstenbosch, who writes:

"She awakened my interest in the Cape—its mountains, flora, spaciousness and the freedom of its life." Further he adds, "In the days when ankle-length skirts were normal attire in Cambridge, Miss Stephens invested in a skirt with two detachable flounces, each several inches wide, one, or both, of which could be removed to give extra freedom on botanical excursions. She wore this on a week's trip in two yachts on the Norfolk Broads. On this occasion she brought with her half-a-dozen pots containing plants on which she was working, and these sat on a bench in the well; everytime we tacked, they slid from one side of the yacht to the other, much to our exasperation. Edith decided 'work and play don't mix'."

In 1911 Edith Stephens returned to take up a lecturership at S.A.C. and she held various posts in the Botany Department until her retirement in 1940. Here Mrs. M. R. Levyns, who was associated with her for many years in the Botany Dept., takes up the story.

"I first met Edith Stephens in 1911 shortly after her return from Cambridge. At that time she was distinctly chubby. Everything about her was comfortably rounded. Her rosy cheeks, bright eyes, abundant brown hair and boundless energy struck everyone who knew her at that time. Her looks did not belie her. Good temper and tolerance characterised her then and throughout her life.

"One of my earliest recollections of her was on an expedition to the Hot Springs in the Olifants River Valley in September 1911. Edith had been placed in charge of a small party of women who had been sent by Professor Pearson to spend a week there studying the vegetation. We occupied three rooms in a double-storied building which stood close to the primitive bathrooms, through which water flowed from the hot springs. The laboratory-cum-dining room was on the ground floor, while the bedrooms led off a balcony reached by steps cut into the hillside. I found myself sharing a bedroom with Edith, a somewhat dubious honour as I soon discovered. Anyone who knew her study at Hazeldene in Belmont Road will realise that before long every piece of furniture in that room was piled high with her possessions. At first, being much her junior, I watched with amazement the process of converting a simply furnished country bedroom into a veritable old curiosity shop. Soon I was forced to assert myself and insist upon having a bed which I could regard as my own. With good humour Edith gave in and henceforward that bed was left for my exclusive use.

"Each night when we had finished pressing and labelling plants in the living room, we climbed the outside stairs to our bedroom. Going to bed on the first night there, I discovered that one of Edith's essential pieces of equipment for the botanical explorer was a revolver which lay on the chair next to her bed as she slept. I eyed that revolver with a certain amount of alarm for I felt it likely that Edith did not know how to use it. Fortunately no wild beasts or criminals disturbed our nights so to this day I do not know if Edith was capable of firing a revolver and hitting the target at which it was aimed. Several nights later, just as we were getting into bed, Edith discovered that she had left the revolver downstairs. For a moment there was consternation. I made no offer to go downstairs in the dark and look for it for I felt that we were much safer without it. Then a look of relief spread over her face as she picked up a microscope with a bright shiny tube and placed it next her bed.

"Snuggling down between the sheets she remarked that if a burglar did come and the microscope was pointed at him, he would not know the difference between it and a revolver. Our safety assured, we both slept soundly.

"In the matter of dress Edith was always a non-conformist. Changes of fashion meant nothing to her. If, however, she felt it a waste of time and money to follow the trends of fashion, she went to considerable lengths in designing garments suitable for excursions. When she came back from her three years at Cambridge she brought with her an assortment of specially made clothes for botanical outings. On one occasion for some reason which now escapes me, I was persuaded to borrow and wear a garment which had been made to her design (this was the dress Prof. Compton tells about). I protested that as I was several inches taller than she, it could not possibly fit me. She insisted that she took up in width just the amount that I would require for my additional inches. She was right. I still have a photograph of myself in that astonishing garment.

"In 1918 when the South African College became the University of Cape Town, the occasion was marked by numerous social functions. At that time Edith was acting head of the Dept. of Botany for the new professor had not yet been appointed. The Senate and Council proposed to celebrate the occasion by a luncheon at the Civil Service Club. Two women qualified as participants in the function, Mrs. E. B. Fuller, a member of Council, and Edith Stephens, a member of the Senate. A difficulty at once arose, for the Civil Service Club did not admit women. Someone suggested that perhaps the two women might not mind if they were left out. Edith would probably have agreed to this suggestion, but not so Mrs. Fuller. The rights of women were at stake, and invitations to both must be issued. Mrs. Fuller won, and so special arrangements had to be made so that these two women might enter the sacred precincts. When the invitation was certain, I asked Edith what she proposed to wear on the auspicious occasion. Needless to say that up to that moment, about a week before the event, she had not given the matter a thought. After some consideration, she replied that her Liberty frock would do. Now this dress had been made for her by Liberty of London about 1908. Not only had it been much worn, but its style was dated. I pointed this out to her, and emphasised that two women in an otherwise male assemblage would be very noticeable. It was important that they should be well dressed. At first she was adamant. Her Liberty frock was quite suitable. Evidently her mother must have added her persuasions to ours, for the next day she agreed to buy a new dress if I would help her to choose it. Before she had time to change her mind, we set off down the Avenue and after some searching found a dress that was both pleasing and suitable. Having chosen the dress, I then drew her attention to the fact that she would need a hat to go with it, for in those days no woman would have dreamt of appearing at a public function without a hat. That, however, was too much for Edith. She would not spend any more money. Her old felt hat would have to do. Again there seemed to be a deadlock. The picture of Edith in her nice new dress with a battered old felt hat on her head did not commend itself to her friends. Fortunately, before the day we managed to persuade her to buy a hat as well. The next suggestion that she should add a pair of gloves to the outfit met with an indignant refusal. What, she demanded, was the need for a pair of gloves at a luncheon? This time she won. However, her friends had the satisfaction of knowing that she was appropriately gowned when she and Mrs. Fuller represented women at the inauguration of the new university.

"For most of her years as lecturer at the University she was in charge of the large and sometimes rowdy first year medical class in botany. Her methods of teaching were unique and many doctors who once attended her lectures, have vivid memories of her. Many of the lecturers who took the first year classes may have become dim memories with the passage of the years, but never Miss Stephens. Her lectures were prefaced with the single word 'Gentlemen', despite the fact that there were always some women in the class. Often she would proceed to castigate members of the class for their defective powers of observation. On one occasion to bring this home to them, she asked how many knew the number of steps leading from the lower terrace to the upper at the University. Needless to say, no one knew. Before each lecture an enormous mass of material to be used in demonstrations was piled on trays on the lecture bench. To those of us who saw this heterogeneous collection on its way in, it was a matter for astonishment that she ever managed to pick out what she wanted from the seeming confusion.

"On one occasion a large number of cabbages were placed in the lecture room in preparation for a demonstration of the structure of a bud. Alas, the temptation was too great for the class and as Edith walked in she was confronted with a battle between two opposing sections, cabbages being the missiles. She narrowly escaped a cabbage which landed on the lecture bench just as she came in."

Of her teaching years, Mr. A. R. Jacobs, the Laboratory Attendant in the Botany Dept. at U.C.T. says that, despite the legend that has grown up around her, Miss Stephens was one of the most methodical and organised of all the many lecturers with whom he has had to co-operate. She, of course, had many eccentric habits and her room was unbelievably untidy, but her practical class preparation was very methodical. Jacobs seldom collected with her. She collected special material and he collected the bulk alone. Miss Stephens was a very popular lecturer, and according to Jacobs, she preferred her classes not to be quiet, because she had an idea that completely quiet classes were up to mischief and not work. Jacobs attended many of her lectures to show slides for her. As far as practical work was concerned, her stock phrase was "observation and common sense, gentlemen". Many subsequent lecturers in Botany have since learnt the basic truth of this statement, and I'm sure it is still very often quoted—I know I certainly did and do. To tie up with her "observation and common sense" thesis, Miss Stephens frequently popped trick questions into tests and examination papers. Two that are often quoted are "How many steps are there from Rhodes Drive (or sometimes from University Avenue) up to Jamieson Hall?" and "What was the Physics lecture on 1st April about?" (By tradition the Physics lecture on that day was bunked).

In the Botany Dept. Miss Stephens certainly devoted a lot of time and care to the museum which she loved. Never a box nor piece of glass was thrown away, because it might eventually be of some use in the museum. This feeling of anti-waste was very strong in Miss Stephens, and any discarded pots, bricks, boxes, bits of concrete or paint were taken off to her home for use at some time or other. Professor Lütjeharms remembers receiving a parcel of fungal specimens from Miss Stephens and on opening it up, he found his hands a dirty black. Later he discovered that Miss Stephens collected all the discarded typewriter ribbons from the office, and used them for tying up her bits and pieces.

With my late Grandfather, Miss Stephens was a co-founder of the U.C.T. staff play-reading circle, whose offices she guided for many years even after her retirement. She got great pleasure out of recruiting and eventually casting new staff members. On one of my first meetings with Miss Stephens, I was "typed" as the French maid, and nothing would change her mind.

A little-known fact is that Miss Stephens was one of the earliest and most enthusiastic motorists at the Cape. Of latter years one thought of Miss Stephens always on foot. Prof. Compton relates that she won a "competition for economical driving and her smiling portrait adorned the walls of one of the early motor sales establishments in Cape Town."

Jacobs remembers Miss Stephens' new Standard very well. It was fitted with blue curtains and was very well looked after. It was always parked in the shade and was never driven in the rain. Many University staff remember the car as usually being loaded high with chars from the Residence because Miss Stephens's kind heart could not bear to think of them walking to the main road after a hard day's work.

MISS STEPHENS'S WORK ON THE FRESH WATER ALGAE AND MARINE ALGAE

Although she did a good deal of embryology at Cambridge, when she first joined the U.C.T. staff her botanical interests turned to fresh water algae and with F. Rich she did research on the fresh water algae of many of the Cape Flats temporary vleis. It was during this period of research that she realised the value of Isoetes Vlei. With the expansion of building and the consequent draining of the vleis this botanically very valuable area with its seasonal population of algae and the type population of *Isoetes capensis* seemed fated to disappear.

During the second world war, Agar-agar (manufactured from a seaweed) which is used in bacterial culture, was very scarce as Japan had been the main supplier. The S.A. Institute of Medical research approached Miss Stephens, asking if she could try to find a South African seaweed that would produce agar-agar. Miss Broomfield remembers the excursion to St. James with buckets and knives to search.

"Suitably dressed—bathing costumes under our frocks, canvas shoes and old hats, we searched the rocks, gathering three different kinds of seaweed and being frequently soused by the incoming tide. We finally sat on the beach, spreading our frocks on the rocks to dry and sorting our harvest. Then back home again to boil specimens in the hope that at least one would set into a jelly: we were lucky. *Gelidium pristoides* provided excellent material. Soon seaweed collection was put on a commercial basis and provided not only the needs for S.A. bacterial research, but was sent to Great Britain as well."

MISS STEPHENS AND HER WORK ON FUNGI

Few citizens of Cape Town and surrounding areas will ever look at a mushroom without thinking of Edith Stephens, even if not by name. Most of us know her two booklets on poisonous and edible mushrooms. During the main Agaric season her house was seldom without a steady stream of folk asking if they could or could not eat the mushrooms collected during their afternoon stroll in the woods. No-one was ever turned away.

THE CAPE TERCENTENARY AWARD

In 1957 the Cape Tercentenary Foundation made an award of R800 to Miss Stephens for her outstanding work in the preservation of natural fauna and flora in the Cape. Miss Stephens used the money to buy Isoetes Vlei, which she presented to the National Botanic Gardens and it is now known as the Edith Stephens Cape Flats Flora Reserve; an excellent memorial to her dedication and generosity.

EDITH STEPHENS AND THE CAPE NATURAL HISTORY CLUB

With the late Mr. & Mrs. Steer, Miss Stephens started the Club in 1922. Much enthusiasm and energy was poured into the running of this club, which still has a large, enthusiastic membership. From 1934 to 1939, she edited the "Cape Naturalist", the Journal of the Cape Natural History Club.

During the second world war, Miss Stephens, on behalf of the Natural History Club, "adopted" the Merchant seamen. She raised money from selling completed cigarette card albums, goldfish and plants from her pond raising nearly R800. The members knitted more than 3,000 garments.

Among members of the Club she was noted for the coining of quaint expressions. It was her custom when visiting anyone who was ill to take along a posy from her unusual garden; the posy usually consisted not only of flowers, but sprigs of aromatic herbs, such as thyme, basil, marjoram, tarragan, etc. and was referred to as a "Tuzzy-muzzy". On excursions the more elderly and slower of the members (and Miss Stephens counted herself among them) were known as the "peaceful potterers".

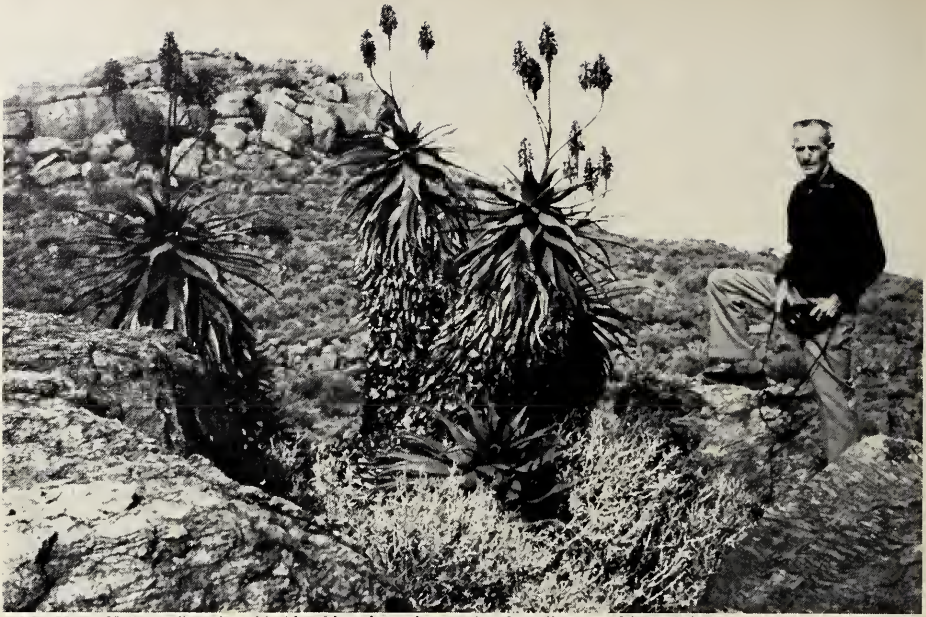
Scientifically, she may not have achieved more than a modicum of fame, but to the members of the Cape Natural History Club she was a great personality and an inspiration to all with whom she came in contact. It can be truly said of her that she "died in harness" as she was out on an excursion three days before her death.

NOTICE

DUPLICATE GRATIS PARKING DISKS

Members are asked to kindly note that the Council of the Botanical Society of S.A. has decided to levy a charge of R1.00 for the issue of duplicate parking disk when the original one sent has been mislaid.

Application for a duplicate disk should be made on a special form obtainable at the Society's office.



Mr. Harry Hall standing alongside Aloe khamiesensis, *growing five miles east of Springbok.*
Mr. Hall retired from Kirstenbosch as Senior Horticulturist in March of this year, after a service of 21 years.

PHOTOGRAPH: *Mrs. L. Hall*

Opening of the Olive May Porter Bridge at the Harold Porter Reserve, Betty's Bay on 14th January, 1967.
Left: Mrs. O. M. Porter. Right: Mr. D. R. D'Ewes, Mrs O. M. Porter and Professor H. B. Rycroft.

Romantic story of How the Barberton Daisy got its name

Mrs. E. Lownds
Johannesburg

In the course of time facts become legends, and legends become facts. Here is one legend, supported by many facts, but impossible, at this date, to substantiate.

In the time of James IV of Scotland and Henry VII of England, many captains, acting under the command of their king, fitted out their own vessels and were known as "Privateers". In 1489, one such man, with his motherless daughter Kate in boy's clothes serving as his mate, left the south of England for the Firth of Forth, Edinburgh to intercept the Scottish trade with Flanders. Sir Andrew Wood with two ships "The Flower" and "The Yellow Carvel" defeated the five English ships. Three of these were captured and the crews sentenced to the gallows. Kate managed to slip away from the other prisoners and threw herself at the feet of the king, then aged sixteen, who was watching the execution, imploring him not to allow her father to be hanged, but to do as he would with her. King James was much amused by this action, pardoned the other prisoners and sent a message to the English King not to again insult the Scottish Seas! Kate was granted a castle and her own crest and device. She wanted her father's ship and the device "Without Fear", but she was given a heraldic ship with a dragon's head at one end and a wolf's at the other. The sail was a Golden Lion on a scarlet ground. The motto was that of James IV: "Sine Metu"—the Latin for "Without fear".

Her son, born in 1490, was christened "James Stewart", but Kate called him "James' Son" and so the name Jameson was born.

After the death of James IV at Flodden Field on 9th September 1513, Kate fled to the Shetland Islands with her whole family and was called Jameson. They lived there for generations. These islands were originally Norwegian but became part of Scotland in the 15th century when they were included in the dowry of the Norwegian princess, Margaret, wife of King James III. It was a very poor land; and in the 18th century one young Jameson decided to go to Scotland, earning his passage as a ship's boy at the age of 15 or 16 years. After wandering in search of work, he was taken on at the soap boiler factory at Leith and did very well, marrying the daughter of the owner and inheriting the business. He became very wealthy. In 1789 two Jameson brothers quarrelled. The younger son left and, deciding to make a clean break, changed his crest to a sailing ship of the period with white sails but he kept the motto "Sine Metu".

The original crest is the one registered at Somerset House, but in Fairbanks' "Book of Crests" both are given.

Early in the 20th century Robert William Jameson, a descendent, practised in Edinburgh as an advocate. He had a lovely voice and had a good practice. But he took part in the agitation for the 2nd Reform Bill. He held illegal open air meetings and in the end was arrested and sentenced to be sent to Botany Bay. His wife had to take in washing to keep her 12 children while he was in gaol. There were eleven sons and one daughter, Kate. They were a devoted family. Robert William was the fourth son. The 2nd Reform Bill was passed and Jameson was released; but his practice had gone and he was ruined. He was offered the editorship of a Liberal newspaper in the village of Stranraer, where the younger sons among them Leander Starr, went to school in the village. The son Robert William was taken up by Professor Huxley as his favourite pupil. He was always wild but brilliant and romantic. He qualified in science with the special subjects entomology and botany.

He got his degree but never took a conventional post. He was six foot tall and powerfully built with his hair always on end. He travelled all over the world generally working as a stoker, collecting insects and plants. The plants he sent to Kew but, although all the scientific data was included, he often forgot to give his name. When hard up he wrote scientific articles. If he was urgently short of money he wrote to his brothers and they helped him out. Once, in Spain, he had 2/6 left but managed to get in touch with his brothers. When the help arrived, he had thrown away the 2/6!

Bob did marry, but on his periodic visits to his brothers, if anyone asked him about this episode in his life, he broke up the furniture, so they never referred to it and supposed something had gone very wrong. Children loved his company, for he told such wonderful adventure stories. One was about dining with the King of a cannibal island. When the food arrived, he wondered what it was he was eating, but took care not to enquire. The King used to stroke his arm and he thought he was next for the pot! He always returned to the sea and travel.

Julius Jameson decided to leave the bank in London and seek his fortune in South Africa. He signed on as a purser on a ship going to South Africa. He met John Irvine on board and joined him as a partner in a trader's business in East London. He had an amusing personality and his bank training made him an asset. People liked him for his jolly ways. Irvine and Jameson bought hides and skins and sold iron pots, etc., for the African trade. The Head Office was in London. He married Laetitia Irvine. Sam, who had also been in the bank in London, came out to join Irvine and Jameson in East London. He was a good looking man, very good at sport, especially tennis, but no good in commerce. Julius asked John Irvine to take Samuel into the partnership, but when he refused, Julius stood by his brother and withdrew from the partnership, claiming £10,000. It was a famous case, judgement being that he could not claim money at all, as he had not put in any capital. After the case was won, John Irvine gave Julius a cheque for £10,000.

Julius sent Sam to Johannesburg to start a timber business for the mines and he prospered.

Julius sent his mother a large diamond from Kimberley to suggest that Leander Starr (Lanner) should come out. Leander, who had trained at the London University College Hospital, and lectured there, applied for a partnership with Dr. Prince of Kimberley and came out to South Africa, where he met his life-long friend Cecil John Rhodes.

Middleton (Midge) Jameson, who was an architect and then an artist in Paris, came to South Africa after the Pioneers had founded Rhodesia at Rhodes' invitation, to paint scenes in Rhodesia.

Robert William (Bob) just turned up in Kimberley one day to see his brothers. He was one of the Pioneer Column and was granted a farm. At the Deeds Registry you can see the Title Deeds granted him by Rhodes. Bob left very soon after the Pioneers settled in Salisbury. He said it was becoming "too civilized". The story is told that he sold the farm for a bottle of whisky! His brother heard shots and wondered what was happening. The African servant said "Only Boss Bob saying farewell".

He had walked from Beira to Johannesburg to visit his brother Sam, who now had a fine house in Johannesburg. He always travelled very light, having a book to read and tearing off the pages as he read them. He had a sail for sleeping on or to protect himself against inclement weather, but otherwise no bedding. He did not like sleeping under a roof, so when, in

Johannesburg, they insisted he went to bed in a first floor room, they found in the morning he had torn up the sheets to make a rope and let himself out of the window. He was a wanderer all his life.

When he came to Barberton is not known, but he sent the Barberton Daisy to Kew, only it is noted as from "William Jameson" and not "Robert William". He is mentioned in T. V. Bulpin's "Lost Trails of the Lowveld" as being in Swaziland when he was gaoled for being drunk and disorderly. The gaoler and himself went out at night and the sober one led the other safely back to gaol!

Julius and Letty visited Barberton where she acquired a nugget for a brooch. They had eight children. Kate Jameson, who married a cousin Lawrence, still lives in Bulawayo.

"Usutu" was written by her daughter, Patricia Jameson and Harry Filmer. It includes some account of the forest where Bob Jameson spent some time collecting flowers and insects. He died in London in a hired room, alone. He left his collection of insects to his landlady. She proudly showed the cases, which she preserved but had burnt "Those nasty goges".

The story of the "Barberton Daisy" is now complete. It is a red flower usually, in its wild state, rugged in habit, with a romantic history indeed! Named after Robert William Jameson, who himself was rugged in character, it became *Gerbera jamesonii*. Mr. George Thorncroft of Barberton sent the first seed to Kew, from where it has become known all over the world. It has been hybridised and flourishes profusely in Australia and Japan; in fact all over the world it is prized as a garden plant and wins many prizes for floral decoration.

It is one of the few cases where the wild flower is the emblem of the town near which it grows wild. People born in Barberton are called "Barberton Daisies" too. Its setting is romantic amidst the Mkonjwa spur of the Drakensberg, where gold was first discovered in rich pockets and drew some 10,000 people to the "De Kaap Valley" to make their fortunes. The story of Barberton's past is romantic too and has been ably told by Mr. W. Curror in "Golden Memories of Barberton". Unfortunately not enough countries use the name of "Barberton Daisy" and the Barberton Publicity Association have been trying for years to have this rectified.

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Kirstenbosch at Christmas

Ernest Lipworth

(*With acknowledgments to "The Transvaal Gardener.*")

Kirstenbosch is a subject which can be dealt with at several levels. The botanist, the conservationist, the tourist, the mountaineer, the landscape lover, even the escapist looking for somewhere quiet to meditate upon the problems of the universe . . ., each has his own approach.

I have tried to select those points which are comment-worthy from the point of view of the average Transvaal gardener.

The first point that struck me is that if a park is well-constructed, especially if it has the benefit of a good situation, a visitor can come at any time of the year and his visit will be well worth while. Not that there was no floral activity. For example, the popular and best-known Proteas are not in flower to any extent at Christmas, but I was charmed with specimens of *Protea venusta*, a species I had not come across before.

The best-known Pincushion is probably *L. nutans* and there were some fine specimens of this out, and it was interesting to note the various shadings of different specimens growing in different parts of the garden. *Leucospermum tottum* was another species that made a good impression. Ericas were there in variety and gave me renewed determination to master the art of their cultivation.

Say Cape Town to a gardener or horticulturist and he will answer back, Silverleaf. Well, there certainly are some lovely specimens in Kirstenbosch. Here and around Table Mountain I understood why they are called Silverleaf Trees. Those I had seen in the Transvaal, even if well-grown, were little more than shrubs. Here, growing in shocking soil, they were not only growing into trees, but apparently self-sowing. To digress, in nearby Bishopscourt I saw two gardeners who had each planted four Silverleaf trees in their pavement gardens.

However, Kirstenbosch is not all Western Cape flora. There were some fine Gerberas from the Transvaal. Cycads in their unforgettable amphitheatre aroused several associations. To a friend who accompanied me on one visit, they looked like giant pineapples. Their great prevalence in certain prehistoric periods conjured up the image of the whole of Kirstenbosch being covered in cycads, of course much larger than the present types, and by the time I had finished with that train of thought I could almost see dinosaurs peeping round the corner.

There were giant ferns to be seen in Kirstenbosch and, feeling positively prehistoric, I recalled that in one of the periods of geological time in which our coal beds were fossilized giant ferns such as these, or even larger ones, were the predominant vegetation.

It suddenly struck me that our power stations, our domestic hearths and many of the products of our civilization, from plastics to pills, are children of the fern, which we think of as no more than a moderately decorative pot plant.

As a complete contrast to the above, I was privileged to see *Disa uniflora*, and possibly other species of Disa as well, on display in the hothouse. Should it ever be possible to cultivate them with more or less the same degree of ease as the other orchids used in commerce by florists and nurserymen, then I foresee the Disa becoming the pot plant par excellence. Similarly

I foresee a great future for the Streptocarpus, of which some very fine species and hybrids were on view.

To come right down to horticultural earth, how do Capetonians get Agapanthus of the size they do? As far as I know they are not indigenous to that area, they grow in terrible soil, they get winter, no summer, water, and yet they grow in Kirstenbosch and elsewhere in the Cape with enormously long stems and huge heads, both blue and white.

Are they using a different strain or species or variety down there, or are our cultural methods in the Transvaal all wrong?

The naming of plants was, I thought, good, and I was most surprised to learn that they have evolved an even better way of doing it and that a leading figure on their botanical staff is going to make a systematic drive over a period of years to ensure that all specimens or groups of specimens will be duly labelled in this new way.

The existing labelling incidentally showed me that although this is the father of all indigenous gardens in this country, they have growing an Erythrina from Kenya. Another tree which presumably was there before Kirstenbosch took on its present nature came, if I remember correctly, from Central or South America.

EDITORIAL NOTE:—

Mrs. Lawder invites both Oversea and South African Members to write to her about their results in sowing Kirstenbosch seed. Her address is: Leliefontein Farm, P.O. Klein Drakenstein, Cape.

Our Seed List

MARGARET LAWDER
Klein Drakenstein, Cape

KIRSTENBOSCH seed of South Africa's indigenous plants was first made available to us, as members of the Botanical Society, in 1921—an innovation with a significance which was perhaps not fully realised at the time, for in the early twenties very few South African plants were cultivated in South African gardens. Those that were under cultivation were either plants plundered from the veld or were grown from seed purchased from overseas' firms. In England, in a number of countries on the continent of Europe and in America some 'South Africans' were known and grown by serious amateurs even before the twin births of Kirstenbosch and our Society. Many of these became colonists when propagation material was introduced by the early travellers and botanical collectors—often their South African origin was forgotten except by botanists.

Nearly half a century was to pass before the slogan CONSERVATION BY CULTIVATION was coined, but there can be no doubt that the distribution of Kirstenbosch seed, coupled with the helpful sowing and growing articles which appear from time to time in the Journal, is one of the principal factors which has aroused the great interest now evident in the cultivation in private gardens of our beautiful wild flowers.

It would be impossible here to consider all the issues of the seed list—they have appeared annually since 1921, but let us take a look at some of the more recent issues, in which seed of many treasures have been offered. Some of these are unobtainable anywhere else in the world, or were unobtainable at the time they were offered to us.

Whether seed of *Geranium incanum* is available anywhere overseas I do not know, but when a South African article about this gay and useful little plant appeared in England's Amateur Gardening during 1967 a spate of new members joined us and requested the seed.

The first offering of *Disa uniflora* seed was made during this decade (in 1965). This was a sensation, for propagation material of the beautiful Pride of Table Mountain was virtually unobtainable anywhere: according to a recent issue of Guiness' Book of Records, *D. uniflora* is, or was in 1965, the orchid most rare under cultivation throughout the world. Distribution of this precious seed was made possible because of the success with which the patient and skilful Gerald Feinauer cultivated and hand pollinated the disa at Kirstenbosch. A very large number of packets of *D. uniflora* seed have been requested and sent to members in various parts of the world—the seed has been available each year since but at the time of writing it is impossible to say if there will be supplies for a 1969 distribution. The seed, by the way, is believed to be viable only for a very short time. It is sent off immediately it is ready and recipients should sow it without delay.

The seed lists of recent years offer many more species than was the case earlier. For example, in 1959, apart from the so-called Rhodesian gladiolus (*G. psittacinus*) only mixed gladiolus spp. were offered. But during the last few years, to the delight of us all, packets of named species have been listed. Among these are such treasures as *G. carmineus:* the so-called painted lady, *G. blandus*, and the little kalkoentjie (*G. alatus*) now becoming rare in Nature.

Those of us who realise how very nearly *Serruria florida* disappeared for ever in the early part of this century, give thanks that it has now been grown so successfully at Kirstenbosch that seed is available to us. Moreover, the trade have been able to obtain it and wild flower nurseries now offer plants of this member of Proteaceae which is surely one of our most attractive shrubs.

One of the highlights of the Botanical Society's offering of Kirstenbosch seed during recent years has been that of *Ursinia geyerii*, the 'crimson daisy' which was unknown to science until only a few years ago (in 1958) Dr. L. Geyer found it on the Ceres veld and brought some propagation material to Kirstenbosch. Mr. Harry Hall, the recently retired Kirstenbosch succulent expert, records in the Journal for 1967, that he harvested 28,000 seeds in 1965. That seed has travelled far; reports received from Australia, New Zealand and England tell us that in these countries, as well as in our own and probably in others overseas, the 'new' ursinia is doing well and causing great pleasure.

As far back as 1957, and perhaps before that, seed of *Cissus juttae* was offered to the Botanical Society's members. A portrait of this strange looking succulent member of the commercial grape family (Vitacae) was sent to London by one of our members and appeared as a cover picture for the Gardeners' Chronicle. This attracted tremendous interest. Of course the succulent experts knew and grew *Cissus juttae*, but 'ordinary' gardeners were intrigued by its curious growth and wanted to cultivate it—with what success I should very much like to know.

Kirstenbosch seed of a fine selection of ericas has been available to us of recent years (twenty five species were listed in 1967 but only ten a decade earlier). In an authoritative article appearing in the Journal for 1957, Mr. A. F. Werner writes about the magnificent collections of Cape heaths which existed in Europe during the last years of the eighteenth century and in the early part of the nineteenth century. 'These', he says, 'were actually much larger in number of species than anything which exists today' (i.e. in 1957). In the same issue of the Journal, Mr. W. R. Stevens writes about his successes with South African ericas and the difficulties which he has encountered with them in New Zealand. *E. patersonii*, he tells us was then a newcomer but *E. canaliculata* had been known and grown in New Zealand for no less than a century (but, he laments, under the incorrect name of *E. melanthera!*).

New Zealanders are well known to be extremely successful with South African plants so that it is not surprising that so many ericas are found in their gardens, but why has the interest in them apparently diminished in Europe where they were once so much grown? For that matter, are we not slow, here in South Africa itself, to adopt our wild heaths for our gardens? Let us read that excellent book Ericas in Southern Africa (published in 1967) with our Society's seed distribution list at our elbow! A desire to sow and grow ericas is certain to result!

I should very much like to hear from members at home and overseas who are sowing and growing Kirstenbosch seed. Perhaps next year our editor could accommodate an article about the successes, the triumphs, the failures and the disappointments which members have experienced when they have sown seed of South Africa's wild flowers gathered at Kirstenbosch and distributed by our Society. Some 'South Africans' are difficult, a few like *Muiria hortenseae* seem seldom to survive for long away from the very small areas in which they have been found in Nature, but many are excellent emigrants and thrive in widely differing climates besides adapting themselves to life in the gardens of South Africa itself. It would not only be very interesting, it would be of practical use, especially to new members to share the results of our sowings and growings of South African plants.

Sima Eliovson is admittedly the leading writer on anything to do with gardening in Southern Africa and she has revised her bestseller

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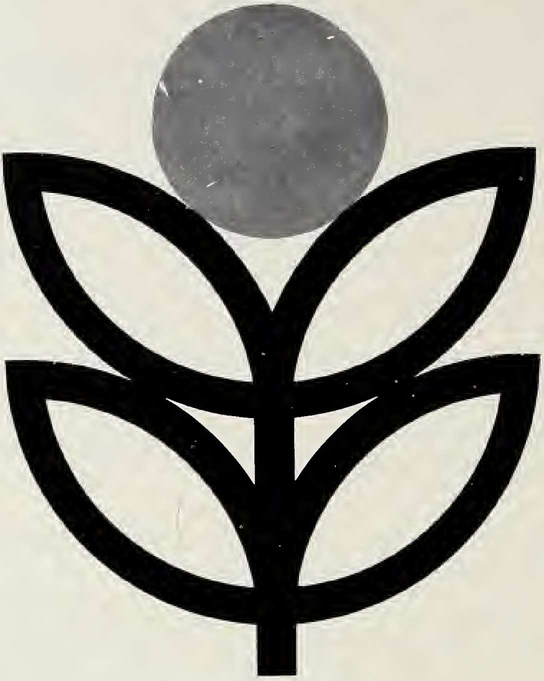

National Botanic Gardens—New Emblem

EMBLEM FOR THE NATIONAL BOTANIC GARDENS OF S.A.

The Trustees of the National Botanic Gardens offered a prize of R500 for the best design for an emblem which could stand for all branches of this ever-growing institution, which now boasts four regional gardens in the Cape Province, besides Kirstenbosch, and two in the Free State, while it is hoped to establish others in the Transvaal and Natal in the not too far distant future.

Over four hundred entries, mostly of a very high standard were received from all over the Republic and overseas.

A panel of eminent artists, Prof. M. van Essche, Mr. N. Dubow, Miss Catherine Harries, all of the Michaelis School of Art, Mr. Kevin Atkinson of the Cape Town Art Centre and Mr. Willem Jordaan, a Cape Town graphic designer, selected the best designs from over 400 entries received from all over the Republic and overseas and from these the Trustees chose the winning entry.

The design submitted by Mr. H. J. Lewington, of Mondeor, Johannesburg, has been chosen as the new emblem.

This design brings out the central strength binding the four provinces together, depicted by the four leaves, which though separate, fuse together as one.

It is hoped that soon this symbol will become immediately recognisable by all as standing for the National Botanic Gardens of South Africa and for each of its branches.

The new emblem is reproduced here for the interest of our readers.

Book Review

ERICAS IN SOUTHERN AFRICA
H. A. Baker and E. G. Oliver
Illustrations by Irma von Below, Fay Anderson and others
Purnell *Price* R12.50

When Marloth's Flora of South Africa was published in the first half of this century, it brought home to many the unparalleled richness of our flora. Unfortunately the price put it beyond the range of all but the lucky few who were able to afford it. Since then there have been many less expensive, illustrated books devoted to the flora and they have shown that there is a considerable demand for books of this type. Hitherto most have been restricted to the flora of a special region. The present publication breaks new ground in that it deals with a single genus, Erica. It may surprise some to learn that there are over six hundred species in South Africa. It has not been possible to include more than about one quarter in the present work. This limitation is inevitable in view of the high cost of production.

In Europe where the genus is widespread, the flowers of the different species vary but little in their floral parts in comparison with those of southern Africa. The greatest diversity is found in the south western Cape where the summers are hot and dry and the winters mild and wet, a type of climate usually termed mediterranean. This type of climate is often associated with a burst of evolutionary activity among plants though we are profoundly ignorant of the causes of the phenomenon. Like many other Cape genera, Erica has in this region undergone a high degree of speciation and, as a result, the range of floral structure is much greater than in other places. All parts of the flower, both in form and size, have been involved.

Botanists in the past in order to make the descriptions of the flower clear to other botanists have used terms which the layman finds puzzling and frustrating. Such terms are an unfortunate necessity but the authors of the present book have overcome the difficulty by giving a glossary in which terms are not only defined but are illustrated by clear line drawings. A nature lover looking at a particular heath and wanting to learn its name, may be asked to decide whether the corolla is ampullaceous, urn-shaped or globose. With an illustrated glossary at hand, the decision is not difficult to make.

The authors while maintaining strict botanical accuracy have succeeded in giving a clear picture of the evolutionary trends in the genus. So skilfully is this knowledge imparted that without being aware of it, the reader will find himself with an understanding of how the species may be distinguished from one another. He will then realise that the species fall into natural groups which form the basis of classification in this fascinating genus.

The book starts with an interesting account of its history and the many workers who have contributed to our knowledge of it. The bulk of the book is devoted to descriptions of selected species accompanied by coloured plates on which not only the general appearance is shown but also enlarged views of the flower and its parts. It is obvious that there has been remarkable co-operation between the authors and the artists, a phenomenon all too rare in the preparation of a book of this kind. It would be difficult to speak too highly of the illustrations which are not only accurate but artistically satisfying as well. All who know heaths in their natural surroundings will know that the translucency of the corolla is one of its most attractive features but one not easily captured on paper. Here the artists have been completely successful and, what is more, this special beauty of the flower has not been lost in reproduction. Both authors and artists are to be congratulated on a splendid achievement. The general excellence of the book makes it specially unfortunate that the date of publication has been omitted from the title page.

M. R. Levyns

The Botanical Society of South Africa

ANNUAL REPORT
FOR THE YEAR ENDING 31 DECEMBER 1967

THE Council of the Botanical Society of South Africa has pleasure in presenting its fifty-fourth Annual Report for the year ending 31st December, 1967.

MEMBERSHIP

We welcomed 799 new members during this year; being 3 Patrons, 15 Life, 17 Corporate, 103 Family, 636 Ordinary and 25 Associate members. This number was offset by death and resignations totalling 199, while a further 256 names were removed from the roll, being two or more years in arrears with their subscriptions. The net gain in membership was, therefore, 344.

FINANCIAL

Subscriptions received totalled: R18,325.86, which includes Patrons: R1,002.90, Life R1,732.74, Corporate: R792.27, Family: R3,784.90, Ordinary: R10,344.37, Associate: R668.68. Expenditure items totalled: R7,781.29 (including depreciation of machines) plus Building expenditure items amounting to R5,670.61, leaving a surplus of R11,023.73, which constitutes the Grant to the National Botanic Gardens for 1967.

ENLARGED OFFICE FOR BOTANICAL SOCIETY

On the recommendation of the Botanical Society Council, the Trustees of the National Botanic Gardens gave their approval for the erection of a prefabricated office building alongside the Society's existing office. This has given a tremendous increase in space and has relieved the congestion and overcrowding that has been present for some years. The new offices are attractively furnished and visitors are now able to enjoy the spacious comfort of our reception room.

MEETINGS OF THE SOCIETY

Saturday, 7th January, 3 p.m.—The Lawn, Kirstenbosch. This was the Special Annual Gathering for Visiting Members, when our President, Mr. Dudley D'Ewes, addressed those present.

Tuesday, 21st February, 8.15 p.m.—Lecture Hall, Kirstenbosch. Mr. E. G. H. Oliver gave a most interesting lecture on "Cape Ericas" and this was illustrated with some magnificent slides by Mr. S. W. Chater. This was a fitting lecture preceding the publication of "Ericas in Southern Africa", by Col. H. A. Baker and Mr. E. G. H. Oliver.

Tuesday, 14th March, 8.15 p.m.—Lecture Hall, Kirstenbosch. Annual General Meeting. Owing to the length of the business of the meeting, the talk entitled ,,Sommige interessante opmerkinge in Duitsland", which was to have been given by Mr. G. J. E. Matthaei, was postponed to a later date.

Tuesday, 4th April, 8.15 p.m.—Lecture Hall, Kirstenbosch. Mrs. Sima Eliovson, who was on a visit to the Cape, gave an appreciative audience an account of her visit to Japan and America. This illustrated talk was entitled: "Gardens in Japan and America".

Tuesday, 18th April, 8.15 p.m.—Lecture Hall, Kirstenbosch. "Visiting the Botanical Society's members in Australia and in New Zealand", by Mr. W. J. Middelmann was most enthusiastically received by the large audience.

Tuesday, 16th May, 8.15 p.m.—Lecture Hall, Kirstenbosch. During Dr. W. P. U. Jackson's lecture, illustrated with most outstanding colour slides, members were indeed able to appreciate the magnificence of the Spring flora of the Western Cape compared to that of Western Australia.

Tuesday, 6th June, 8.15 p.m.—Lecture Hall, Kirstenbosch. Although Mr. & Mrs. P. A. Sargeant's talk on "Wild Flowers and Mountains of the Cape", illustrated with magnificent colour slides, was held in mid-winter, a most appreciative and large audience attended this meeting.

Tuesday, 29th August, 8.15 p.m.—Botany Department Lecture Hall, University of Cape Town. Prof. G. J. Broekhuysen of the University of Cape Town and Mr. F. Gess of the S.A. Museum (Natural History) gave a most interesting symposium on "Birds which frequent Proteas" and "Insects found on Proteas". This was followed by Dr. Broekhuysen's delightful colour film on South African birds.

Tuesday, 8th August, Lecture Hall, Kirstenbosch. Mr. G. J. E. Matthaei's interesting account of a recent visit to Germany, given in Afrikaans, was entitled: „Sommige interessante opmerkinge in Duitsland" and was illustrated with colour slides.

Saturday & Sunday 23rd and 24th September—Lecture Hall, Kirstenbosch. Wild Flower Show —details of which are given in the Wild Flowers Protection Section Report.

Monday, 2nd—Saturday, 7th October—Lecture Hall, Kirstenbosch. "A Garden of South African Wild Flowers". This exhibition, depicting art needlework, copper work, paintings etc. where flowers indigenous to South Africa had been used as the theme, was officially opened by Mrs. J. Newton Thompson. The exhibition was an outstanding success and drew many visitors. Apart from the support of local members, entries were received from as far afield as Johannesburg and Knysna. We convey our special thanks to all who contributed to the success of this exhibition.

Tuesday, 3rd October, 8.15 p.m.—Botany Department Lecture Hall, University of Cape Town. We were greatly privileged in having Professor David Webb, of the Trinity College, Dublin as our lecturer. Dr. Webb, who was the guest of Sir Alfred and Lady Beit at Gordons' Bay, gave an informative, illustrated lecture on the Alpine flora of Europe.

Saturday, 7th October, 3 p.m.—Annual Spring Gathering, The Lawn, Kirstenbosch. After refreshments were served, members were shown some interesting features in the National Botanic Gardens by the horticulturists who were in attendance at this meeting.

Saturday, 28th October, 3 p.m.—Annual Visit to Karoo Garden, Worcester. This was a most successful visit. It was decided that a bus should be hired to transport members and their friends to these Gardens. This idea proved so popular that three buses were needed to accommodate approximately 150 people! Prof. H. B. Rycroft, Mrs. Enid du Plessis and Miss M. E. Johns accompanied the party and added interest to the journey by identifying the flora en route. Morning tea was enjoyed at a hotel in Du Toit's Kloof and despite the unfavourable weather conditions at Worcester, members enjoyed their visit.

Tuesday, 7th November, 8.15 p.m.—Botany Department Lecture Hall, University of Cape Town. Prof. H. B. Rycroft gave a most interesting and informative account of developments in the National Botanic Gardens to a large, appreciative audience. A feature of special interest was the news of the establishment of regional botanic gardens at Harrismith and Bloemfontein.

Saturday, 2nd December, 3 p.m.—Annual Visit to the Harold Porter Reserve, Betty's Bay. We again hired three buses for this visit and a record number attended this meeting at the close of the year.

OBITUARIES

The Council records with extreme regret, the sudden death of Dr. G. J. Lewis in April. Dr. Lewis had served on the Botanical Society's Council for many years. Our sincere sympathy is extended to Mrs. G. Lewis and her family.

Mr. C. J. Sibbett.

Mr. C. J. Sibbett, a Vice-President and Honorary Life Member of our Society, passed away in December.

PRESENTATION OF HARRY BOLUS MEDAL

At an informal ceremony held at the Director's Office on 14th December, the Harry Bolus Award was presented to Col. H. A. Baker for his outstanding services to the science of Botany.

OFFICE BEARERS 1967

The following office bearers were elected at the Annual General Meeting of the Society held on 14th March:

President: Mr. D. R. D'Ewes,
Vice-Presidents: Prof. R. H. Compton,
Prof. H. B. Rycroft,
Mr. C. J. Sibbett.
Council: Mr. M. G. Botha,
Mr. L. J. Hill,
Miss M. E. Johns,
Prof. W. J. Lutjeharms,
Mr. W. J. Middelmann,
Mrs. E. Powrie,
Dr. G. J. Lewis,
Mr. J. J. Fagan,
Prof. W. P. U. Jackson,
Prof. P. G. Jordaan,
Mr. G. J. E. Matthaei,
Mr. J. Minnitt,
Mr. F. C. Sawkins,
Dr. E. A. Schelpe,
Prof. F. L. Warren.

Mr. M. G. Botha was re-elected Chairman at the first meeting of the Council.

The Botanical Society Council nominated Mrs. C. E. Searle to fill the vacancy occasioned by the death of Dr. G. J. Lewis.

REVISED CONSTITUTION

At the Annual General Meeting held on 14th March, 1967, certain alterations to the Society's Constitution were unanimously approved. Copies of the revised Constitution will be sent to all members together with the 1967 issue of the Journal. We convey our grateful thanks to Mr. J. J. Fagan for his valued help with the revision of the Constitution. The Chairman was responsible for translating this into Afrikaans.

THANKS

We record our sincere thanks to our President, Vice-Presidents and to all members of Council, as well as to all members who have so willingly given their time in lecuring to us. We express our gratitude to all who sent articles for display at our recent exhibition, with a special word of thanks to Dr. W. Schneewind of the S.A. Museum (Cultural History) for his kindness in allowing us to display an antique South African sampler and to Dr. Irma Eckert for her help and advice. We also thank Miss S. Olivier, of the National Botanic Gardens and the many others who helped us during this exhibition; especially remembering those who gave their time in doing duty at the Lecture Hall. We gratefully acknowledge the consideration and kindness of Mr. J. Grobler, Assistant Director of the National Botanic Gardens, for allowing us to use his office during building extensions. Mrs. Anne MacKenzie is heartily thanked for her loyal and valued help in the office. Mrs. P. Campbell's able assistance and co-operation is also recorded with appreciation. The Cape Provincial Administration is thanked for the use of its Board Room for Council Meetings and we thank the Daily Press and S.A. Broadcasting Corporation for their help.

M. G. Botha, *Chairman*
(Miss) J. Harvey, *Secretary/Treasurer*

Wild Flowers Protection Section Committee

ANNUAL REPORT
FOR THE YEAR ENDED 31 DECEMBER, 1967

INCOME FOR THE YEAR

Balance as at 1/1/67: R5,422.40. Subscriptions received: R1,466.67, Interest received on Investments: R126.17, Profit on Wild Flower Show: R110.24. Expenditure items totalled: R3,358.77 (which includes the printing of the brochure describing the lay-out of the National Botanic Gardens), plus 5% of subscriptions received credited to General Administration Expenses: R73.33 and depreciation of equipment at 10 per cent p.a. R108.76.

WILD FLOWER SHOW 23–24 SEPTEMBER

Our Wild Flower Show, which was held in perfect weather, was officially opened by Sir Richard Luyt, Principal-designate of the University of Cape Town. In his opening address, Sir Richard described this as being a "God-given day." We express our grateful thanks to all members who entered exhibits and who contributed to the success of this Show.

SALES OF MIMETES ARGENTEA IN JOHANNESBURG

Mr. Stuart Macpherson of Johannesburg, who was formerly a member of the Botanical Society Council, reported that blooms of the rare species *Mimetes argentea* were being sold in a florist's shop in central Johannesburg. An appeal was then made to the Department of Nature Conservation in Cape Town to have this matter investigated. Eventually, the supplier of these blooms was traced as being a licensed grower in the Cape Western Province. When an official of the Department of Nature Conservation called at the farm in question in order to ask the owner to reduce sales of this rare species, it was found that a recent fire had destroyed the plants on his property.

KOGELBERG FOREST RESERVE

A member of our Committee expressed concern about the increase of alien growth at this reserve, which is one of the richest areas of indigenous flora in the Cape Province. Concern was also expressed regarding the possibility of a new national road being constructed that would pass through this reserve. An appeal has been made to the Minister of Transport to ensure that this unique floral area be preserved from any destruction.

PINES ON RONDEBOSCH COMMON

As agreed at a meeting of this Committee, a letter was sent to the Parks Department, recommending that the planting of pines on this site be discontinued in the future. In his reply the City Engineer stated that "The groups of Stone Pines on the Rondebosch Common are a very pleasant and characteristic feature of this area and new plantings are designed only to replace the old trees which are beginning to die out rather rapidly. . . . I am aware of the attractive natural flora on the Common and share your interest in its survival."

INDIGENOUS FLORA AT KENILWORTH RACECOURSE

It was reported that the Kenilworth Racecourse was soon to be disbanded and the site used for road development. As the interior section of this racecourse contains some of the most valuable flora of the Cape Flats, such as *Proteae cynaroides*, together with Disa and Erica species found only in this area, it was unanimously agreed that these should be preserved. A letter was, accordingly, sent to the Secretary of the South African Turf Club in this connection. The reply received was that to the best of his knowledge, there was no possibility in the near future, of this Race Course being abandoned. The assurance was also given that their Committee had every intention of preserving the indigenous species referred to in our letter and that any assistance offered by the Society would be welcomed.

OFFICE BEARERS

The following members were elected to this Committee:

Mrs. Enid du Plessis,
Miss M. E. Johns,
Mr. G. J. E. Matthaei,
Professor H. B. Rycroft,
Mr. F. Watermeyer,
Mr. D. Heesom,
Mrs. A. MacKenzie,
Mr. W. J. Middelmann,
Mr. F. C. Sawkins,
Mr. D. H. Woods.

Professor H. B. Rycroft was re-elected Chairman at the first meeting of this Committee.

THANKS

We express our gratitude to all who have helped us during this year, particularly at our Wild Flower Show; to the Curator and staff of the Compton Herbarium who were responsible for the naming of specimens exhibited, as well as to members of the National Botanic Gardens staff; to all the judges and stewards who gave their valuable time in the interests of this Committee. The Cape Provincial Administration, the Daily Press and the S.A.B.C. are also thanked for their co-operation and help.

PROFESSOR H. B. RYCROFT, *Chairman*
(MISS) J. HARVEY, *Secretary/Treasurer*

The Botanical Society of South Africa Transvaal Branch

CHAIRMAN'S REPORT
FOR THE ANNUAL GENERAL MEETING
HELD ON 14TH NOVEMBER, 1967

LADIES AND GENTLEMEN,

It gives me great pleasure to welcome you all here tonight. Our branch has continued in its happy and successful path with well-attended meetings and a variety of interesting lectures.

Our first meeting took place on the *7th February*, at the Dorothy Susskind Auditorium and our lecturer was Mr. W. R. Trauseld, who is a member of the Natal Parks Board. He gave us an illustrated lecture on the flora of the Giant's Castle area and his familiarity with this part of the Drakensberg made the evening most instructive and enjoyable.

On the *7th March*, at the same venue, we were shown slides of Sir Harry Oppenheimer's garden at Kimberley by Miss Joane Pim, who designed and laid out the gardens. It was interesting to see the imaginative and extensive use of indigenous plants.

On the *12th May*, we had a joint meeting with the Transvaal Horticultural Society, who invited us to the Library to hear Dr. Inez Verdoorn speak on the genus *Crinum*. This was a most outstanding lecture on a fascinating subject and given by the authority on the genus with great clarity and simplicity.

Our fourth meeting took place on the 8th August at the Dorothy Susskind Auditorium. Dr. D. Edwards, head of the Botanical Survey Section of the Botanical Research Institute, Pretoria, gave us an illustrated lantern slide talk on the Wild Flowers of the Tugela Basin. The photography was excellent and the subject of the greatest interest.

The fifth meeting of this year, which takes place tonight on the occasion of our annual general meeting, is at our favourite venue. Our speaker is Mrs. B. Peschel, Chairman of the Transvaal Horticultural Society and also of the Wild Flower Section, as well as a member of our committee. She is so well-known to us that she needs no introduction. She will speak on "Some Interesting South African Members of the Amaryllis Family".

Your committee has had several meetings during the year and has made every effort to invite interesting lecturers to speak to us on instructive and unusual subjects of interest to wild flower lovers.

On *5th April* this year, your Chairman gave a talk to the Botanical Society in Kirstenbosch and was present when a cheque of R10,418.73 was handed over by the Botanical Society to the National Botanic Gardens. Another opportunity to see Professor Rycroft occurred during September in Cape Town.

The Transvaal Branch, by continuing with its activities, has provided many members in the area with enjoyable interest in our flora and has kept alive the spirit and aims of the Botanical Society of South Africa, as well as its close ties with Kirstenbosch itself. Our only regret is that we have been unable to find the land in Johannesburg on which to establish either a Regional Garden or a Botanic Garden with a large section for indigenous plans.

Thank you very much indeed for coming here tonight to make our Annual General Meeting a success.

SIMA ELIOVSON,
Chairman

Drakensberg and Eastern Free State Botanic Gardens

NOTES ON ITS DEVELOPMENT

18th May 1967–31st May 1968

This Botanic Garden was born on 18th May, 1967, and the event was marked by an official function which was attended by town-councillors and members of the Botanical Society at the Mayor's Parlour of the Harrismith Town Hall.

The Director of the National Botanic Gardens of South Africa, Professor H. B. Rycroft, spent the first few days at Harrismith discussing future developments of the garden with the first Curator, Mr. A. van der Zeyde.

Arrangements were also made to purchase a light delivery van. On June 1st, our three-quarter ton "Datsun" was commissioned for service and a steel tent with green canvas was fitted soon afterwards to this van.

During the first few weeks the Harrismith Municipality had a 30 foot-wide road made from the Town to the garden's entrance; a distance of approximately 700 yards.

This was soon followed by the erection of a corrugated-iron building, divided into an office and a tool room.

During the winter months our Bantu workers, approximately five in number, were mainly occupied in clearing vegetation near the entrance, strip-burning as fire protection on the perimeter of the garden; eradicating alien weeds and repairing fences.

On account of weather conditions during winter months, we were prevented from doing any horticultural work and a network of 2 ft. 6 in. wide footpaths were made on our 232 morgen of land.

Paths have been completed for approximately four miles and are much appreciated by visitors, especially during week-ends.

The Harrismith Municipality had two drive-ways made for us, one along the perimeter of the garden, parallel to the National Road (measuring approximately 2 miles) and the other one leading from the Eastern boundary to the top of "Queens Hill" facing Harrismith. These roads are used not only for our own transport and by motoring visitors viewing the flower beds along the drives, but also as fire-breaks in winter.

During the early months of development, many plans for the future of the garden were made. Our first temporary office was at the Harismith Town Hall and later at a building in the garden.

The future nursery area was cleared of vegetation and trenching work was done to establish a surrounding windbreak hedge. The first seed beds were also prepared and sown with a variety of indigenous shrubs.

The Curator and two men took part in two different "Operation Wild Flower" week-end expeditions in the Bergville District, resulting in a total rescue of 150 Aloe spectabilis and 100 Aloe saponaria specimens which were all planted along foot-paths in the garden.

The "Free State Botanic Garden" at Bloemfontein has, on a number of occasions been supplied with plants collected in the district of Harrismith.

During the rainy months of our summer, 42 short collecting trips were made, mainly to the nearby Platberg and King's Hill region, which resulted in our obtaining some 12,300 plants which have been introduced in the garden.

All groups of plants or single specimens, have been furnished with a label, stating the date of planting, registration number, botanical name and plant-family.

A number of Petrified Wood pieces, Dadoxylong solerosum, were donated to the garden by farmers and are now displayed at the entrance. A small notice board, giving information regarding the 150,000,000 year old Dadoxylon, has been placed there as well for the interest of visitors.

At the entrance gate, a 6 ft. by 4 ft. board has been erected, which states the garden's official name, as well as the name and address of its head office at Kirstenbosch, in both official languages.

During February of this year, a lawn—a fine Cynodon species "Harrismith Lawn", of approximately one acre in extent, was planted near the entrance.

As an extension to our zinc building, we built a 12 ft. by 8 ft. workroom with work bench and a concrete floor was laid.

The Municipal Engineers Department have also laid an asbestos/cement 2-inch pipe-line to a site envisaged as a central garden and amphitheatre region. A distance of 2,600 ft. has been completed, leaving approximately 1,200 ft. to be done before this reticulation of unpurified water is completed. Two 1,000 gallon water storage tanks will be installed at an altitude as high as the available water pressure permits.

ACTIVITIES ENVISAGED FOR THE NEXT FINANCIAL YEAR

The main development will be centred at the future main garden in the Amphitheatre area, near the National Road (Harrismith to Ladysmith). The network of paths and drives will be further extended. Collection of plants will be continued and increased.

The Public Works Department have agreed to erect the following buildings: Tractor and implement shed with attached store room; fuel room, a glass house and two propagating frames. Other proposed amenities will have to be temporarily abandoned on account of costs.

Plans for a local herbarium will commence as soon as suitable storage space becomes available. Supplies of plant material and seeds will be collected and forwarded to other Botanic Gardens, such as Kirstenbosch and Bloemfontein where requests are made.

As soon as we acquire a camera a start will be made on building up a collection of colour slides, depicting the flora of the Drakensberg and the Eastern Free State.

REPRESENTATIVE ON THE BOARD OF TRUSTEES

Councillor I. Helman was originally appointed by the Harrismith Town Council as a Trustee of the Garden during this year, but as Mr. Helman no longer serves on this Council, *Councillor A. G. Kennedy* has been appointed to fill the vacancy. Mr. Kennedy takes a great interest in our work.

LABOUR

The first Bantu worker was employed on June 1st and our labour force has gradually increased to the present staff of nine, comprising six men and three women.

ALFRED VAN DER ZEYDE
Curator

Report on the activities of the Harrismith Branch of the Botanical Society of S.A.

Society meetings and excursions have been numerous; slide and film shows being most popular and varied.

The first lecture was given at the inaugural meeting by Mr. Trauseld, superintendent of Natal National Parks. His subject was the Drakensberg flora, illustrated with colour slides.

Professor Rycroft had most appreciative audiences when he gave illustrated lectures on a European tour and on Proteas.

When Professor Schelpe visited Harrismith on a collecting expedition before completing his recently-published book on South African Orchids, he gave an illustrated lecture to the Branch. His audience was amazed at the wealth of orchids growing in the Harrismith area. At least one colour plate appearing in Dr. Schelpe's book depicts an orchid (and a most rare one at that) from this area.

Other eminent lecturers were Mr. van Ee, Curator of the Bloemfontein Zoo, Mr. Oberholzer, Secretary of the O.F.S. Nature Conservation Society, Mr. Labuschagne of the National Parks Board, Mr. Feinauer, Curator of the Bloemfontein Botanical Gardens and Mr. Huizinga of Virginia. Local talent included Miss Joan Simpson, an authority on bushman paintings, Mr. Rykaardt and Mrs. Bessie de Beer.

A number of plantings were undertaken by the Branch in conjunction with the Voortrekkers and the Harrismith Garden Club. Many hundreds of plants from the neighbourhood were used to replenish the ones that had disappeared during many years of uninterrupted grazing. Soon after Mr. van der Zeyde became Curator of the Harrismith Garden, he was appointed honorary secretary of the Branch and plantings under his direction now prove much more satisfactory. On one occasion trees and shrubs were set out round the office buildings at the Garden and as part of the Festival of the Soil activities, a very successful planting was organised, where local trees and shrubs were again mainly used.

Several street sales were held and a small nest-egg has been set aside towards some specific future development in the Gardens—perhaps for the entrance gates when permission is granted by the Roads Department for a direct entrance to be made.

There can be no doubt that through the efforts of this Branch the public is gaining a better appreciation of the importance of nature conservation. The wealth of the Drakensberg flora is gradually becoming known, but a very wide field still has to be covered.

There is a scarcity of trained botanists in this area and apparently amateur botanists are even fewer in number. If the Harrismith Branch succeeds in inspiring even a few people to take a more serious interest in botany, its existence will be fully justified.

MRS. M. L. JACOBSZ,
Chairman.

THE BOTANICAL SOCIETY

BALANCE SHEET AS AT

	R c	R c
Life Membership Fund		11,022.56
Balance 1/1/1967	14,960.43	
Add: Amounts received	1,732.74	
	16,693.17	
Less: Expenditure incurred re office building, equipment, etc.	5,670.61	
Reserve Fund		800.00
Mrs. W. Hall Memorial Fund		191.75
National Botanic Gardens		11,023.73
Carried forward		23,038.04

OF SOUTH AFRICA

31st DECEMBER, 1967

		R c	R c
Investments			19,501.42
Cape of Good Hope Savings Bank		744.82	
Savings Account No. 52773			
Post Office Savings Bank		241.67	
Savings Account No. 5803			
United Building Society		284.47	
Savings Account No. 536			
Trust Bank of Africa Ltd.		3,551.23	
Savings Account No. 63794	468.73		
Fixed Deposit No. 6583 with accrued interest	2,055.00		
Fixed Deposit No. 13769 with accrued interest	1,027.50		
Standard Bank of S.A. Ltd.		2,813.15	
Savings Account			
Saambou		5,076.08	
Indefinite Period paid-up Shares	4,000.00		
Savings Account	1,076.08		
Electricity Supply Commission		6,790.00	
R7,000 Local Registered Stock at $6\frac{7}{8}\%$			
Office Equipment			252.30
Addressograph		180.00	
Balance 1/1/1967	200.50		
Less: Depreciation written off	20.50		
Adding Machine		48.00	
Balance 1/1/1967	53.10		
Less: Depreciation written off	5.10		
Typewriter		24.30	
Balance 1/1/1967	27.00		
Less: Depreciation written off	2.70		
Current Assets			3,284.32
Current Account with Standard Bank of S.A. Limited		204.96	
Cash on Hand		179.82	
Wild Flower Protection Section		3,298.54	
		3,683.32	
Less: Liabilities		399.00	
			R23,038.04

THE BOTANICAL SOCIETY

BALANCE SHEET AS AT

Brought forward			23,038.04
Wild Flower Protection Section			3,584.62
Balance 1/1/1967		5,422.40	
Subscriptions—Ordinary—received during 1967		1,466.67	
Interest received during 1967		126.17	
Profit on Wild Flower Show		110.24	
		7,125.48	
Less:		3,540.86	
5% of 1967 Subscriptions credited to General Administration Expenses	73.33		
Salaries	592.39		
Stationery, Printing, Travelling Expenses, Insurances etc.	1,463.73		
Printing of Brochures less Sales	1,264.25		
Uniforms	38.40		
Depreciation of Equipment at 10% p.a.	108.76		
			R26,622.66

OF SOUTH AFRICA

31st DECEMBER, 1967 *(cont.)*

			Brocght forward	23,038.04
Wild Flower Protection Section				3,584.62
Investments			5,882.22	
Trust Bank of Africa Ltd.		4,882.22		
Savings Account No. 34077	3,403.98			
Fixed Deposit No. 9823 with accrued interest	963.24			
Fixed Deposit No. 11444 with accrued interest	515.00			
Standard Bank of S.A. Ltd.		1,000.00		
Savings Account				
Equipment			980.00	
Balance 1/1/1967		538.00		
Additions at cost		550.76		
		1,088.76		
Less: Depreciation written off		108.76		
Cash on Hand			20.94	
			6,883.16	
Less: Amount due to General Account			3,298.54	
				R26,622.66

We have to report that we have examined the above Balance Sheet as at 31st December, 1967, with the books and vouchers of the Society, and have obtained all the information and explanations we have required. We are satisfied that the securities are in existence, and that the Society has kept proper books and accounts.

We are of opinion that such Balance Sheet is properly drawn up so as to exhibit a true and fair view of the state of the Society's affairs at the date thereof, according to the best of our knowledge and the explanations given to us, and as shown by the books of the Society.

CAPE TOWN
21st February, 1968.

Signed R. M. JOUBERT & CO.
Chartered Accountants (S.A.), *Auditors*

THE BOTANICAL SOCIETY OF SOUTH AFRICA

INCOME AND EXPENDITURE ACCOUNT FOR THE TWELVE MONTHS ENDED 31st DECEMBER, 1967

	R c			R c	R c
General Administration Expenses	1,537.96	**Subscriptions**			15,590.22
Audit Fees 1967	200.00	(1966)			
Salaries	2,545.54	(R3,333.11)	Family Members	3,784.90	
Contribution to Pension Fund	132.00	(R8,873.89)	Ordinary Members	10,344.37	
Bank Charges	172.24	(R666.80)	Associate Members	668.68	
Stationery and Printing	2,695.65	(R859.55)	Corporate Members	792.27	
Expenses Transvaal and Harrismith Branches	469.60	(R400.00)	Contributions by Patrons		1,002.90
Depreciation—Equipment	28.30	(Benefactor: R800)			
(1966: R10,419.73) Surplus for the year	11,023.73	(R711.50)	Donations		747.50
		(R964.76)	Interest on Investments		1,225.80
		(R131.00)	Journal Advertisements recovered		238.60
	R18,805.02	(R15,540.51)			R18,805.02

WILD FLOWERS OF THE CAPE OF GOOD HOPE—BOOK FUND TRUST ACCOUNT

INCOME AND EXPENDITURE ACCOUNT FOR THE TWELVE MONTHS ENDED 31st DECEMBER, 1967

	R c		R c
Stock of Books on hand 1/1/1967	4,443.31	Sundry Income	823.00
Audit Fees 1967	21.00	Stock of Books on hand 31/12/1967	3,839.84
Surplus for the year	198.53		
	R4,662.84		R4,662.84

BALANCE SHEET AS AT 31st DECEMBER, 1967

	R c	R c		R c	R c
Accumulated Funds		4,562.34	**Stock Books on Hand**—as per Treasurer's valuation		3,839.84
Balance 1/1/1967	4,702.81		**Post Office Savings Bank**		163.37
Add: Surplus as above	198.53		Savings Account No. 5660		
	4,901.34		**Cash**		559.13
Less: Transfer to National Botanic Gardens	339.00		Current Account at Standard Bank of S.A. Limited	94.33	
			On Hand	22.80	
			Juta & Company Ltd.	435.00	
			Amount due by General Account	49.00	
				601.13	
			Less: Liabilities	42.00	
		R4,562.34			R4,562.34

CAPE TOWN
21st February, 1968

CERTIFIED CORRECT

Signed R. M. JOUBERT & CO.
Chartered Accountants (S.A.), *Auditors*

PUBLICATIONS ON SALE AT KIRSTENBOSCH

The following may be obtained by application, enclosing payment of 10 cents each, to the Secretary, The Botanical Society of South Africa, Kirstenbosch, Newlands, C.P., South Africa. Prices include postage.

General Hints on Raising Indigenous Plants from Seed: H. F. Werner.
Algemene Wenke oor die Kweek van Inheemse Plante van Saad: H. F. Werner.
S.A. Proteaceae and Their Cultivation: H. F. Werner.
S-A. Proteaceae en Hul Teelt: H. F. Werner.
The Cultivation of the Proteaceae: Marie M. Vogts.
Growing Proteaceae in the Summer-rainfall Area: Marie Vogts.
Propagation and Cultivation of Proteas and Heaths: H. F. Werner.
Growing S.A. Proteaceae in New Zealand: W. R. Stevens.
The Behaviour of some S.A. Proteaceae in New Zealand: W. R. Stevens.
The Propagation of Succulents from Seeds and Cuttings: H. Hall.
Notes on some rare Stapelias from Namaqualand: H. Hall.
Plant Collecting in the Kaokoveld: H. Hall.
Gasteria—A Problem Genus of S.A. Succulent Plants: E. A. Schelpe.
Namaqualand, A Botanical Wonderland: H. Hall.
Some S.A. Biennials and near-Biennials and their Cultivation: H. F. Werner.
Some S.A. Herbaceous Perennials and their Cultivation: H. F. Werner.
Growing Cape Bulbs in the Summer Rainfall Area: Sima Eliovson.
Some Cultural Notes on Disa uniflora: G. M. L. Feinauer.
Notes on Streptocarpus and its Cultivation: H. B. Rycroft and G. M. L. Feinauer.
South African Epiphytic Orchids I: E. A. Schelpe.
South African Epiphytic Orchids II: E. A. Schelpe.
The Gymnosperms at Kirstenbosch: Enid P. du Plessis
Die Gymnospermae te Kristenbosch: Enid P. du Plessis.
The Botany of Basutoland: A. Jacot Guillarmod.
The Botany of Swaziland: R. H. Compton.
The Green Cancers in South Africa—Alien Vegetation.
Die Kankerbosse van Suid-Afrika—Uitheemse Plantegroei.
Ursinia geyeri—With some Notes on its Cultivation at Kirstenbosch: H. Hall.
The Species of Oxalis occurring in the Cape Peninsula and how to distinguish them: T. M. Salter.
Progress in the Study of the Silver Tree Disease: D. Olivier.
Pelargonium—A S.A. Contribution to World Gardens: F. M. Leighton.
Seaweeds: W. E. Isaac.
Plants of Land and Sea: W. E. Isaac.
Plant Names and their Origin: M. R. Levyns.
Birds of the National Botanic Gardens of S.A.: G. J. Broekhuysen.
Saving our Flora: H. B. Rycroft.
The National Botanic Gardens of S.A.: R. H. Compton.
Economic Plants at Kirstenbosch: F. W. Thorns.
Three Hundred Years of Trees—Past and Future: R. H. Compton.
The Wilds: Gwen Edwards.
The Cultivation of Buchu: H. F. Werner.
The Melville Koppies Nature Reserve, Johannesburg: Annabelle Lucas.
Welwitschia bainesii (*Hook f.*) *Carr.*: Wim J. Tijmens.

The following may be obtained on application to The Director, National Botanic Gardens of South Africa, Kirstenbosch, Newlands, C.P.

Journal of South African Botany, from Volume XVI onwards, each volume in four quarterly parts. R5.00 per volume, R1.50 per part. (To members of the Botanical Society of South Africa R4.00 and R1.00).

Reprints of articles published in the *Journal of S.A. Botany* (each) 10c

Supplementary Volumes to the Journal

I—Genus Oxalis in South Africa: T. M. Salter	*Out of print*
II—Genus Muraltia: M. R. Levyns	R3.50
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IV—Genus Agapanthus L'Heritier: F. M. Isaac	R3.00
V—South African Species of Eulophia: A. V. Hall	R3.00
VI—An Annotated Check List of the Flora of Swaziland: R. H. Compton	R3.00

OBJECTS:

1. The promotion of the interests of the National Botanic Gardens of South Africa established under the Trustees of the National Botanic Gardens of South Africa.
2. The preservation of the native flora of South Africa. The Society therefore endeavours:
   - (*a*) To encourage the people of South Africa and other countries in the progress and development of the National Botanic Gardens of South Africa at Kirstenbosch, and any other Garden that may be established by the Trustees of the said National Botanic Gardens of South Africa.
   - (*b*) To augment the Government and other grants towards developing, improving and maintaining the National Botanic Gardens of South Africa at Kirstenbosch and any Garden referred to in the preceding subsection.
   - (*c*) To organize shows at which may be displayed the results of botanical experiments of cultural skill in improving the different varieties of South African flora.
   - (*d*) To enlighten and instruct on botanical subjects by means of meetings, lectures and conferences and by the distribution of literature.
   - (*e*) To promote the preservation of the native flora of South Africa, to encourage public interest in it, and to co-operate with the Public Authorities and others in the attainment of this object.

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Honorary Members may be elected at a Meeting of the Society on the nomination of the Council.

All members except associate members have the privilege of sharing in the free distribution of surplus seeds from Kirstenbosch and Worcester, on application to the Director of the Gardens. The Journal of the Botanical Society, published annually, is sent free to every member. The Journal of South African Botany can be purchased by Members at reduced rates.

Members who wish to support the Wild Flower Protection Section of the Society may give an annual subscription of 75c per annum in addition to the subscription for the class to which they belong. Those wishing to become Members of the Society are invited to communicate with the Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, C.P.

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Versekeraars Beperk.
* Eerste bouvereniging wat goedkoop lewensdekking
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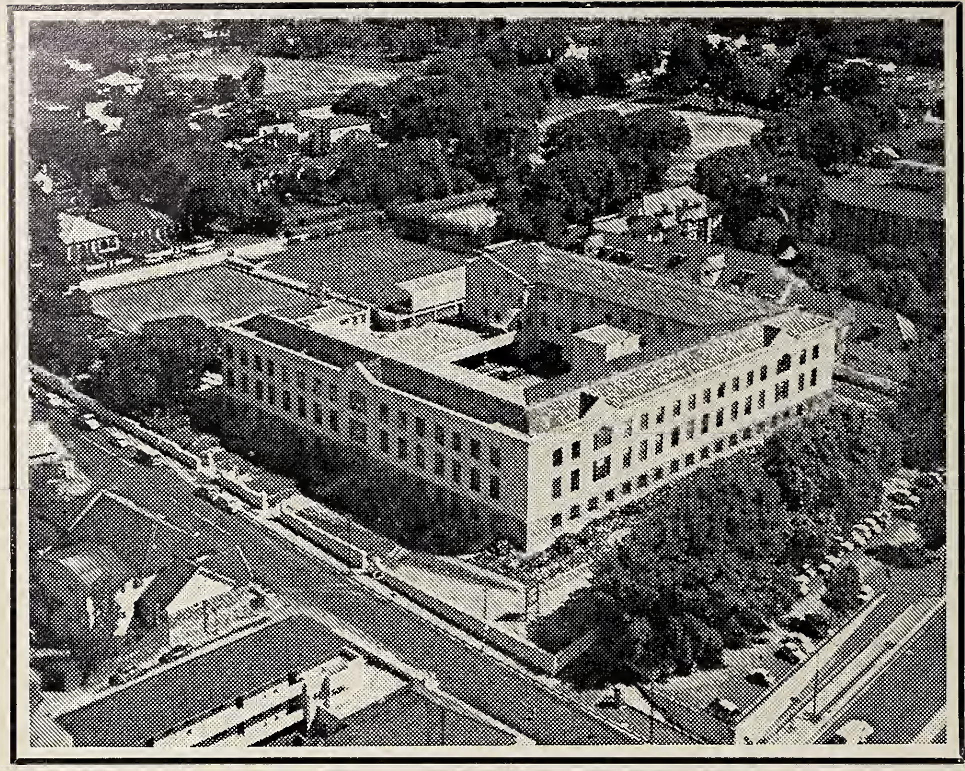

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JOURNAL OF THE BOTANICAL SOCIETY OF SOUTH AFRICA

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PART 55, 1969
DEEL 55, 1969

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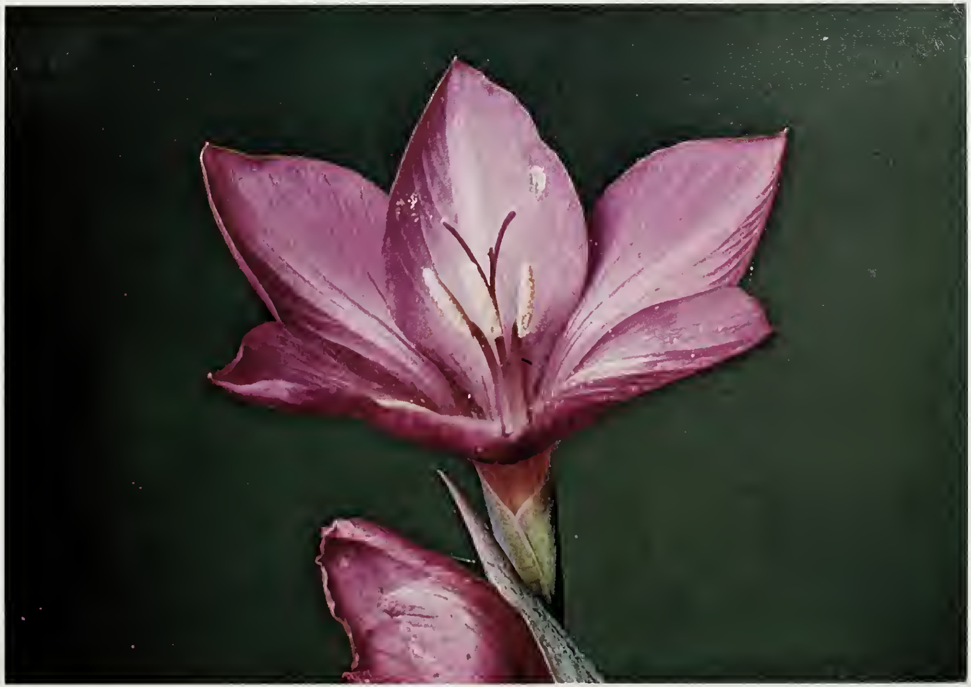

Gladiolus Carmineus (*See Article Page 14*) Photograph: H. B. Rycroft

JOURNAL *of the Botanical Society of South Africa*
JAARBLAD *van die Botaniese Vereniging van Suid-Afrika*

Part/Deel 55, 1969

Editor:
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Direkteur van die Nasionale Botaniese Tuine van Suid-Afrika, Kirstenbosch,
Harold Pearson-professor in Plantkunde aan die Universiteit van Kaapstad.

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Surruria florida (Blushing Bride)
Photograph/Foto: Prof. H. B. Rycroft

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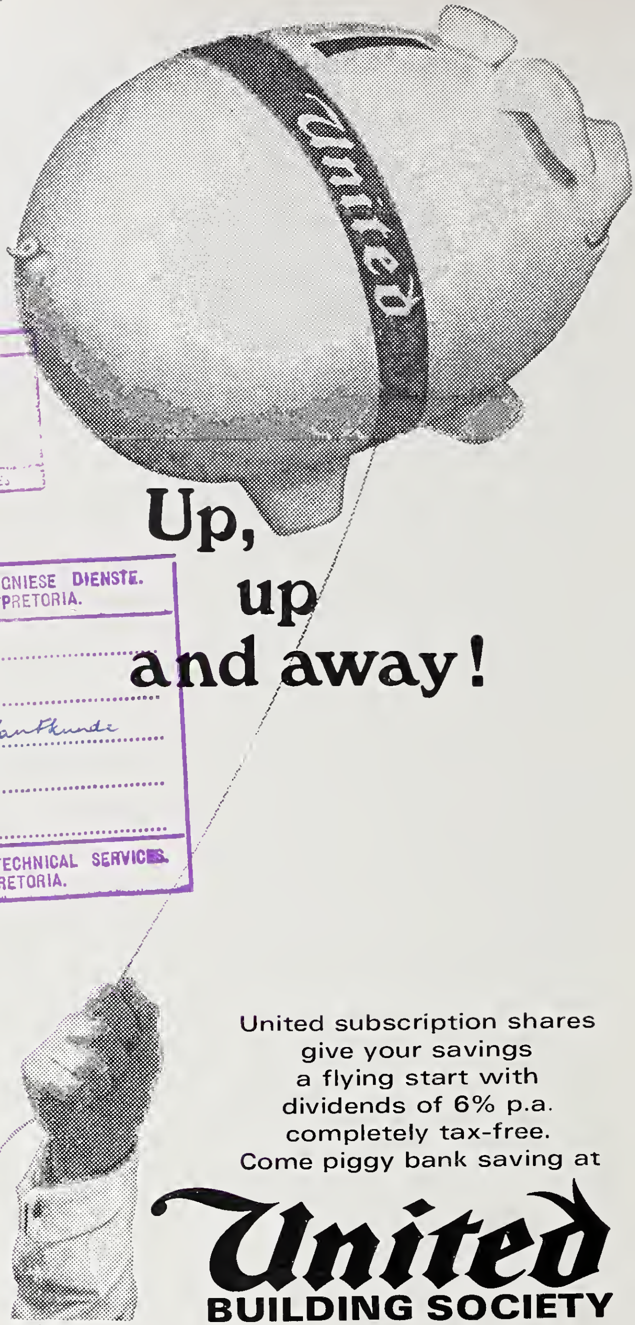

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News and Notes

Nuusbrokkies

KIRSTENBOSCH SCHOLARSHIP

The Kirstenbosch Scholarship is awarded annually to a promising young qualified horticulturist, from any part of the world, to gain experience in the cultivation and scientific study of the natural flora of South Africa. The scholar works at Kirstenbosch or at any one of the regional Botanical Gardens under the control of the National Botanic Gardens of South Africa.

Mr. Peter Hattingh of Durban has been awarded the Scholarship for a second term of office. In addition, a second scholarship for 1969 goes to Mr. Brian Tarr of Port Elizabeth.

NATURE RESERVE PLAQUE

We are grateful to Mr. Heunis M.E.C. for having introduced the specially designed plaque to be issued to private landowners of registered nature reserves as some acknowledgment of their attempts to preserve wild life.

The penalties for contravention of the Nature Conservation Ordinance will be considerably stricter for offences on land displaying this plaque.

PLANT EXPERT FOR KIRSTENBOSCH

A German horticulturist with wide overseas experience, Mr. Walter Wisura, was appointed Senior Horticulturist in charge of the Succulent collection at Kirstenbosch from August, 1968. He completed his training in Germany and has worked in Sweden, Switzerland and Iceland.

Mr. Wisura succeeds Mr. Harry Hall who retired in March, 1969, from a position he had held as Senior Horticulturist for 21 years.

SOUTH AFRICAN FLOWERS FOR A BRIDE

Flowers were sent by air from South Africa by Mr. Jack Marais, Chief Curator at Kirstenbosch, for the wedding of his daughter, Deanna, in the Old Parish Church in Carnoustie, Scotland.

The bride's pink-and-white bouquet was of South African "Blushing Bride" flowers (*Serruria florida*) and vases of proteas were used in floral arrangements at the reception.

MRS. HELEN BURTON

The widow of Mr. Harry Burton — a Cabinet Minister in Botha's 1910 Union Cabinet — celebrated her 90th birthday on July 7th, 1968. Mrs. Burton will be remembered in Cape Town as a great botanist who, with Mrs. Louisa Bolus, was chiefly responsible for the campaigning which led to the formation of Kirstenbosch as a botanical garden.

MILK BOARD AND FLOWERS

Four teenagers from South African schools, winners of an essay competition organised by the Milk Board, spent 23 days on an overseas tour as guests of the Board, taking with them huge bouquets of magnificent blooms from Kirstenbosch to present to the mayors of cities they visited.

KIRSTENBOSCH-STUDIEBEURS

Die Kirstenbosch-studiebeurs word jaarliks aan 'n belowende jong gekwalifiseerde tuinboukundige van enige wêrelddeel toegeken om ondervinding in die kweking en wetenskaplike studie van die natuurlike flora van Suid-Afrika op te doen. Die persoon werk by Kirstenbosch of enige van die ander streeks botaniese tuine onder beheer van die Nasionale Botaniese Tuïne van Suid-Afrika.

Mnr. Peter Hattingh van Durban het vir die tweede keer die beurs ontvang. Daarbenewens is 'n tweede beurs vir 1969 aan mnr. Brian Tarr van Port Elizabeth toegeken.

NATUURBEWARINGSPLAAT

Ons is dank verskuldig aan mnr. Heunis, L.U.K., vir die daarstelling van 'n spesiaal ontwerpte plaat, uitreikbaar aan eienaars van private eiendomme of geregistreerde natuurreservate as erkenning vir hulle pogings ter beskerming van die natuur. Toepassing van strawwe vir oortreding van die Natuurbewaringsordonnansie sal strenger uitgevoer word vir oortredings op grond wat hierdie plaat vertoon.

PLANTDESKUNDIGE NA KIRSTENBOSCH

'n Duitse tuinboukundige met uitgebreide kennis van werk oorsee, mnr. Walter Wisura, is aangestel as senior tuinboukundige in bevel van die Vetplantversameling te Kirstenbosch vanaf Augustus 1968. Hy het sy opleiding in Duitsland voltooi en het in Swede, Switserland en Ysland gewerk.

Mnr. Wisura is opvolger van mnr. Harry Hall wat gedurende Maart 1969, na 21 jaar as senior tuinboukundige, uittree.

SUID-AFRIKAANSE BLOMME VIR 'N BRUID

Mnr. Jack Marais, hoof-kurator te Kirstenbosch, het per lugpos blomme vir sy dogter, Deanna se huwelik in die „Old Parish Church" in Carnoustie, Skotland, gestuur. Die pienk en wit bruidsruiker het bestaan uit Suid-Afrikaanse *Serruria florida* en protea-rangskikkings is gebruik by die resepsie.

MEV. HELEN BURTON

Die weduwee van mnr. Harry Burton — kabinetminister van die 1910 Unie Regering van Botha — het op 7 Julie 1968 haar 90ste verjaardag herdenk. Mev. Burton sal onthou word as 'n bekende plantkundige wie, tesame met mev. Louisa Bolus, hoofsaaklik verantwoordelik was vir die veldtogte wat gelei het tot die stigting van Kirstenbosch as 'n botaniese tuin.

DIE MELKRAAD EN BLOMME

Vier tienderjariges uit Suid-Afrikaanse skole, wenners van 'n opstelwedstryd georganiseer deur die Melkraad, het 23 dae oorsee getoer as gaste van die Raad, en het reuse ruikers, bestaande uit blomme van Kirstenbosch, saamgeneem en dit oorhandig aan die burgemeesters van die stede waar hulle besoek afgelê het.

FREE STATE BOTANIC GARDEN

The State President, Mr. J. J. Fouche, officially opened the first branch of the National Botanic Gardens of South Africa in the Free State on 22nd February in Bloemfontein. The ceremony took place in the morning of a beautiful day and was attended by a large gathering of local dignitaries and their families plus a small contingent of members of the Kirstenbosch staff. Miss Jean Harvey, Secretary of the Botanical Society of South Africa and Miss Joan van Reenen, of the teaching staff at Kirstenbosch, were also of the party. It proved to be a most pleasant function, enlivened by excellent speeches, delicious tea and pleasant surroundings.

On the evening prior to the Opening a performance of the opera, "Tosca", was given in the Bloemfontein Civic Centre by special permission of Pacofs. All profits from this gala performance are to be utilised for the development of the new Botanic Garden.

OVERSEAS VISITORS

During 1968 five groups of botanists, horticulturists and amateur gardeners from overseas visited South Africa specifically to see the wild flowers and Kirstenbosch which is gaining international recognition for its plant collection. In September a party of 33 visitors from the New York Botanic Gardens came to Kirstenbosch under the leadership of Dr. William Steere, Director of the Gardens. At the same time another American group from the Brooklyn Botanic Gardens visited Kirstenbosch, led by Miss Elizabeth Scholtz, a South African now living in New York, who is Director of Adult Education at Brooklyn Gardens.

A group of about 30 garden enthusiasts from Britain arrived on a similar visit to Kirstenbosch, while an "Estates and Gardens" tour party, also from Britain, came during the same month of September. In October a party from New Zealand was organised by Mrs. Barbara Mathews, editor of a leading gardening journal.

LEISCHING HALL

Professor Rycroft opened the Leisching Hall – a large conference hall at a new hotel in Bantry Bay, Sea Point. This bay was originally called Botany Bay and was the site of a large garden planted and maintained in the days of the Dutch East India Company in the 18th century.

Dr. Leisching was one of the pioneers of horticulture in South Africa and it would be fitting if an attempt could be made to re-establish the type of plants he had grown there.

NEW DAM

A new dam, containing about 11,000,000 gallons of water, has been constructed at Kirstenbosch. Fed by Nursery Stream, it covers seven acres and was actually built in less than a month by a team of five men.

It will be filled up later when the security fence is completed and it is hoped that the display in the Gardens will be greatly enhanced in future as a result of the establishment of this dam.

ORANJE-VRYSTAAT BOTANIESE TUIN

Die Staatspresident, mnr. J. J. Fouché, het op 22 Februarie die eerste tak van die Nasionale Botaniese Tuine van Suid-Afrika in die Oranje-Vrystaat te Bloemfontein amptelik geopen. Die plegtigheid het gedurende 'n lieflike oggend plaasgevind en is bygewoon deur 'n groot aantal plaaslike hoogwaardigheidsbekleders, hulle gesinne en 'n klein afdeling lede van die Kirstenbosch-personeel. Mej. Jean Harvey, sekretaresse van die Botaniese Vereniging van Suid-Afrika en Joan van Reenen, van die onderwyspersoneel van Kirstenbosch, was ook teenwoordig. Dit was 'n uiters aangename byeenkoms, opgelewe met puik toesprake, heerlike tee en 'n aangename omgewing.

Op die vooraand van die amptelike opening is 'n uitvoering van die opera „Tosca" in die Bloemfontein Burgersentrum aangebied met spesiale vergunning van Sukovs. Alle winste van die galabyeenkoms sal bestee word aan die ontwikkeling van die nuwe Botaniese tuin.

OORSESE BESOEKERS

Gedurende 1968 het vyf groepe oorsese plantkundiges, tuinboukundiges en amateur tuiniers Suid-Afrika besoek om spesifiek die natuurlike blomme en Kirstenbosch, wat steeds internasionale erkenning verwerf vir sy planteversameling, te sien. Tydens September het 'n groep van drie-en-dertig besoekers van die New York Botaniese Tuin na Kirstenbosch gekom onder leiding van dr. William Steere, direkteur van Tuine. Tegelykertyd het 'n ander groep Amerikaners van die Brooklyn Botaniese Tuine Kirstenbosch besoek, onder leiding van mej. Elizabeth Scholtz, 'n Suid-Afrikaner, nou woonagtig in New York, wat direkteur is van Volwasse Opvoeding by die Brooklyn Tuine.

'n Groep van ongeveer dertig tuin-entoesiaste uit Brittanje het 'n soortgelyke besoek aan Kirstenbosch gebring, terwyl 'n „Landgoed- en Tuin"-toergroep, ook van Brittanje, gedurende dieselfde maand, September, besoek afgelê het. Gedurende Oktober het 'n groep van Nieu-Seeland, georganiseer deur mev. Barbara Mathews, Redaktrise van 'n bekende tuinboujoernaal, hier besoek afgelê.

LEISCHING-SAAL

Professor Rycroft het die Leisching-saal — 'n groot konferensiesaal in 'n nuwe hotel in Bantrybaai, Seepunt — geopen. Hierdie baai was oorspronklik bekend as Botaniebaai waar 'n groot tuin aangelê en instand gehou is gedurende die tydperk van die Hollandse Oos-Indiese Kompanjie in die 18de eeu.

Dr. Leisching was een van die pioniers van tuinbou in Suid-Afrika en dit sou gepas wees indien 'n poging aangewend kon word om die tipe plante wat hy daar geplant het, weer aan te plant.

NUWE DAM

'n Nuwe dam, wat ongeveer 11,000,000 gellings water bevat, is by Kirstenbosch opgerig. Dit word gevoed deur die Kwekerystroom, beslaan sewe akkers en is in minder as 'n maand gebou deur 'n vyf-man werkspan.

Dit sal later, wanneer die sekuriteitsomheining voltooi is, volgemaak word en daar word gehoop dat die uitstalling in die Tuin, in die toekoms grootliks versterk sal word a.g.v. die daarstelling van die dam.

Annual Spring Gathering, Kirstenbosch.
Members were taken on the National Botanic Gardens tractor to view the newly completed reservoir at Kirstenbosch.
Photograph: Mr. Walter Wisuca

NEWS FROM HARRISMITH

It is heart-warming to learn that members of the Harrismith Botanical Society held a very successful street sale which realised, thanks to the co-operation and active support of members of the Society and the public, the sum of R44. This amount will be used to purchase benches for the Botanic Garden.

J. W. MATHEWS COMPETITION

In 1968 the subject for the competition embraced a wide range and children from either High Schools or Primary Schools should have had no difficulty in making a choice to suit their own particular interest.

The J. W. Mathews Floating Trophy for High Schools was awarded to Lualdi Blacklaws, a pupil of St. Thomas Aquinas High School in Witbank, for her theme on vleis and their related plant and animal life. The Kirstenbosch Flora Conservation Trophy for Primary Schools was won by Leslay Walters and Celia Prout, both of the Rustenburg Junior School. The response from the Coloured schools was negligible but the quality was quite high. Two boys, Kevin Reid and Ivan Ryneveld, from Boundary School, Bonteheuwel, tied for first place.

NUUS UIT HARRISMITH

Dit is verblydend om te verneem dat lede van die Harrismith Botaniese Vereniging, 'n baie suksesvolle straatverkoping gehou het wat, danksy die samewerking en aktiewe ondersteuning deur lede van die Vereniging en die publiek, 'n opbrengs van R44 gelewer het. Hierdie bedrag sal gebruik word om banke vir die Botaniese Tuin aan te koop.

DIE J. W. MATHEWS-WEDSTRYD

In die 1968 wedstryd het die onderwerp 'n wye veld gedek en leerlinge van sowel Hoër- as Laerskole sou geen probleme kon ondervind met die keuse van 'n onderwerp in hul eie belangstellingsrigting nie.

Die J. W. Mathews-wisseltrofee vir hoërskole is toegeken aan Lualdi Blacklaws, 'n leerling van St. Thomas Aquinas Hoërskool in Witbank vir haar tema oor vleis en die verband tussen plante- en dierelewe. Die Kirstenbosch Plantbeskermingstrofee vir laerskole is gewen deur Leslay Walters en Celia Prout, albei van die Rustenburg Juniorskool.

Die reaksie van die Kleurlingskole was onbeduidend maar die gehalte werk van 'n hoë standaard. Twee seuns, Kevin Reid en Ivan Ryneveld, van die Grensskool, Bonteheuwel, het albei eerste plek verower.

BOOK ON CONSERVATION

Inga and Olov Hedberg have edited an excellent work on "Conservation in Southern Africa South of the Sahara". Various authors have contributed to this volume, the section on the Cape Province having been written by Professor H. B. Rycroft.

MORE LADY HORTICULTURISTS FOR KIRSTENBOSCH

Miss Hannecke Hardick and Miss Klas Hiemstra who qualified as horticulturists in Holland, started work at Kirstenbosch on 1st October. Miss Hiemstra is in charge of the Mist Propagation House and Miss Hardick is our first plant recorder. Together with Miss Theodora Green in charge of the Seedroom, our two Dutch lady horticulturists are really breaking new ground in a field hitherto looked upon as a "man's world"!

KIRSTENBOSCH FLOWERS IN AMERICA

The following letter was received from the Secretary for Information:

"International Book Exhibition,
Kansas City, June 1968.

I wish to convey the appreciation of my Department for the beautiful selection of indigenous flowers which you supplied for the abovementioned exhibition."

Mr. W. J. Pretorius, one of our Information Officers in New York, who was partly responsible for the South African booth, reports *inter alia* as follows:

"The American Library Association Convention in Kansas City, held in conjunction with the book exhibition, was quite an impressive event, attended by about 9,000 librarians throughout the United States. I was unable to determine exactly how many exhibitors took part in the book exhibition, but 26 countries exhibited in the international section, representing about 600 publishers of books and periodicals. The South African booth was by far one of the highlights of the international section. The proteas which were airfreighted from Pretoria and which were beautifully arranged by Miss Cecile Schmidt, attracted a lot of attention and many people came to our booth especially to see the proteas as they had heard of them from their friends. I am indeed grateful for your valuable assistance at all times."

HARRY BOLUS AWARD

Mr. L. C. Leach of Nelspruit, Transvaal, was presented with the Harry Bolus Medal at a lecture he gave to members of the Botanical Society of S.A. at the Claremont Civic Centre on Friday, 3rd January, 1969.

This award is made by the Society in recognition of outstanding services made by an amateur botanist to botanical science.

BURSARY

A scholarship is being offered by the Wild Flowers Protection Section of our Society to the value of R500 for research in plant ecology in connection with any aspect of conservation of South African indigenous flora. This scholarship is tenable for two years with a possible extension for a further year.

'N BOEK OOR BEWARING

Inga en Olov Hedberg het 'n puik werk „Bewaring in Suider Afrika Suid van die Sahara" gepubliseer. Verskeie skrywers het bydraes gelewer en die afdeling oor die Kaapprovinsie is geskryf deur prof. H. B. Rycroft.

MEER VROULIKE TUINBOUKUNDIGES VIR KIRSTENBOSCH

Mejj. Hannecke Hardick en Klas Hiemstra wat as tuinboukundiges gekwalifiseer het in Holland, het op 1 Oktober te Kirstenbosch diens aanvaar. Mej. Hiemstra is in bevel van die stuifsel voortplantingshuis en mej. Hardick is ons eerste plante-aantekenaar. Tesame met mej. Theodora Green, in bevel van die Saadkamer, maak ons twee Hollandse dames regtig voorbrand op 'n gebied wat tot nog toe beskou is as 'n niemandsland vir dames.

KIRSTENBOSCH SE BLOMME IN AMERIKA

Onderstaande brief is van die Sekretaris van Inligting ontvang:

„Internasionale Boekuitstalling, Kansas Stad, Junie 1968:

Ek wil die waardering van my Departement oordra vir die pragtige versameling inheemse blomme wat deur u verskaf is vir bogenoemde tentoonstelling."

Mnr. W. J. Pretorius, een van ons inligtingsbeamptes in New York, wat gedeeltelik verantwoordelik was vir die Suid-Afrikaanse stalletjie, berig o.a. as volg:

„Die Amerikaanse Biblioteek Assosiasie Kongres in Kansas Stad, gehou tesame met die boekuitstalling, was 'n heeltemal indrukwekkende gebeurtenis, bygewoon deur ongeveer 9,000 bibliotekarisse dwarsdeur die V.S.A. Ek kon nie vasstel presies hoeveel deelnemers deelgeneem het aan die boekuitstalling nie, maar 26 lande het deelgeneem aan die internasionale afdeling, en het ongeveer 600 publiseerders van boeke en tydskrifte verteenwoordig. Die Suid-Afrikaanse stalletjie was by verre een van die hoogtepunte van die internasionale afdeling. Die proteas, wat per lugvervoer vanaf Pretoria versend en pragtig deur mej. Cecile Schmidt gerangskik is, het baie aandag getrek en baie mense het spesiaal na ons stalletjie gekom om die proteas te sien waarvan hulle by hulle vriende gehoor het.

Ons is baie dankbaar vir u waardevolle ondersteuning te alle tye."

HARRY BOLUS-TOEKENNING

Mnr. L. C. Leach van Nelspruit, Transvaal, het die Harry Bolus-medalje ontvang by 'n lesing wat hy gelewer het aan lede van die Botaniese Vereniging van Suid-Afrika in die Claremont Burgersentrum op Vrydag, 3 Januarie 1969.

Hierdie toekenning word gedoen deur die Vereniging, ter erkenning van uitstaande dienste gelewer deur 'n amateur plantkundige tot plantkundige wetenskap.

STUDIEBEURS

'n Studiebeurs ten bedrae van R500 word deur die Veldblom-Beskermingsafdeling van ons Vereniging aangebied vir navorsing in plantekologie met betrekking tot bewaring van Suid-Afrikaanse inheemse flora. Hierdie beurs is geldig vir twee jaar met 'n moontlike verlenging van nog een jaar.

NEW FORMAT FOR MEMBERS' SEED LIST

The 1969 seed list of gratis seed distributed by the National Botanic Gardens of S.A. depicts a colour photograph of *Gladiolus blandus* taken by Professor H. B. Rycroft.

EXHIBITION OF WILD FLOWER PHOTOGRAPHS

One of our members, Mr. O. K. Dose of Pinelands, Cape, who is a Fellow of the Royal Photographic Society, held an exhibition in Stuttafords Gallery, Cape Town, during February of this year. Entitled "A Cape Floral Year", this exhibition depicted outstanding colour photographs of indigenous flowers *in situ*. The opening address was made by Mr. Justice Diemont.

NEWS FROM NEW ZEALAND

Mrs. Elsie Waldrom, of Auckland, New Zealand, writes: "We in New Zealand are indebted to South Africa for many of the colourful plants we grow. I have not had any success with heaths, but have been successful with bulbs, such as Gladioli. The little Tristus grows all along our roadside — but not in the garden. I had a nice clump of different colours of Lachenalia, Ixias, and Romuleas from South African seed, but none of the lovely Sabulosa and Agapanthus. My Virgilia was again a glorious sight."

Mrs. Waldrom would like to correspond with members who are interested in exchanging ideas and seed with her. Her address is: Mrs. E. Waldrom, 1 Muriwai Road, Waimauku, Auckland, New Zealand.

SYMPATHY

We extend our heartfelt sympathy to Prof. R. H. Compton, Vice-President of our Society (who was the second director of the National Botanic Gardens, Kirstenbosch), whose wife, Mrs. Kathleen Compton, passed away in Mbabane, Swaziland on 9th January.

GRATIS PARKING DISKS

We record our gratitude to Mobil Oil Southern Africa (Pty.) Ltd. for their kind generosity in sponsoring our 1969 parking disks.

BOTANICAL SOCIETY'S EXHIBITION OF WILD FLOWER PHOTOGRAPHS

We are planning to hold an exhibition of wild flower photographs in the Lecture Hall, Kirstenbosch during July and we are hoping that members who have suitable photographs either in colour or black and white will support our exhibition. Entries should be received by us not later than 1st June.

THANKS

We are indebted to our President, Mr. Dudley D'Ewes, for his help in preparing this Journal for the Press.

NUWE BOEKFORMAAT VIR SAADLYS VIR LEDE

Die 1969 saadlys van gratis saad wat versprei is deur die Nasionale Botaniese Tuine van Suid-Afrika, het 'n kleurfoto van die *Gladiolus blandus* geneem deur prof. H. B. Rycroft beskryf.

UITSTALLING VAN VELDBLOMFOTO'S

Een van ons lede, mnr. O. K. Dose van Pinelands, Kaap, wat lid is van die Koninklike Fotografiese Vereniging, het 'n uitstalling in die Stuttafordsgalery, Kaapstad, gehou gedurende Februarie hierdie jaar.

Getitel „'n Kaapse Blommejaar", het die uitstalling uitstaande kleurfoto's van inheemse blomme op die plek beskryf. Die openingsrede is gelewer deur mnr. professor Diemont.

NUUS UIT NIEU-SEELAND

Mev. Elsie Waldrom van Auckland, Nieu-Seeland skryf: „Ons in Nieu-Seeland is dank verskuldig aan Suid-Afrika vir baie van die kleurvolle plante wat ons kweek. Ek was nog nie suksesvol met heide nie, maar wel met bolle bv. Gladioli. Die klein Tristus groei langs die pad — maar nie in die tuin nie. Ek het 'n mooi bos van die verskillende kleure Lachenalia, Ixias en Romuleas van Suid-Afrikaanse saad, maar geen Sabulosa en Agapanthus nie. My Virgilia was pragtig."

Mev. Waldrom sou graag wil korrespondeer met lede wat geinteresseerd is in die uitruil van idees en saad met haar. Haar adres is: Mev. E. Waldrom, Muriwaiweg 1, Waimauku, Auckland, Nieu-Seeland.

MEEGEVOEL

Ons betuig ons opregte meegevoel met prof. R. H. Compton, vise-president van ons Vereniging (hy was die tweede direkteur van die Nasionale Botaniese Tuine, Kirstenbosch) wie se vrou, mev. Kathleen Compton, hom te Mbabane, Swaziland, op 9 Januarie, ontval het.

GRATIS PARKEERSKYFIES

Ons betuig ons dank aan die Mobil Olie S.A. (Edms.) Bpk. vir hulle vriendelikheid in die borging van ons 1969 parkeerskyfies.

DIE BOTANIESE VERENIGING SE UITSTALLING VAN VELDBLOMFOTO'S

Ons is van voorneme om 'n uitstalling van veldblomfoto's in die Lesingsaal, Kirstenbosch gedurende Julie te hou en ons hoop dat lede wat geskikte foto's in kleur 1f wit en swart het, ons uitstalling sal ondersteun. onskrywings moet ons bereik voor 1 Junie.

DANKBETUIGING

Ons is dank verskuldig aan ons president, mnr. Dudley D'Ewes, vir sy hulp in die voorbereiding van hierdie joernaal vir die drukkery.

WILD FLOWERS PROTECTION SECTION PUBLICATION

In response to frequent comments at our committee meetings about the need for more education about South African flora and its preservation, it has been decided that a regular publication be issued containing articles describing the lesser-known species.

BACK NUMBERS OF JOURNAL

C. G. van Tubergen, Limited, an established Nursery at Koninginneweg 86, Haarlem, Holland, are very anxious to obtain some of the back numbers of the Journal of the Botanical Society of South Africa in order to complete the set in their extensive library. They will be happy to pay for them or exchange them against a selection of species and hybrids of Lilies and/or Dahlias. If any member is willing to do this and has one or more of the undermentioned parts, will they kindly communicate direct with the firm concerned or write to The Secretary of the Botanical Society of South Africa, Kirstenbosch, Newlands, Cape.

Part I up to and including Part VII of 1921.

Part XII of 1926.

Part XXIX of 1943.

VELDBLOM-BESKERMINGSAFDELING PUBLIKASIE

In antwoord op die herhaalde kommentaar tydens komiteevergaderings omtrent die gebrek aan opvoeding oor Suid-Afrikaanse flora en die bewaring daarvan, is besluit dat 'n gereelde publikasie bestaande uit artikels wat die minder-bekende soorte beskryf, uitgegee sal word.

AGTERBLAD NOMMERS VAN JOERNAAL

C. G. van Tubergen, Beperk, 'n gevestigde kwekery te Koninginneweg 86, Haarlem, Holland, is baie gretig om sommige van die agterblad nommers van die Joernaal van die Botaniese Vereniging van Suid-Afrika te bekom ten einde die stel in hulle omvattende biblioteek volledig te maak. Hulle is bereid om daarvoor te betaal of dit uit te ruil vir 'n versameling van soorte en basterlelies en/of dahlias. Indien enige lid bereid is om dit te doen en een of meer van ondergemelde dele het sal hulle asseblief direk met die betrokke firma skakel of skryf aan: Die Sekretaris van die Botaniese Vereniging van Suid-Afrika, Kirstenbosch, Nuweland, Kaapstad.

Deel I tot en insluitend Deel VII van 1921.

Deel XII van 1926.

Deel XXIX van 1943.

SHELL BROCHURE

Botanically minded visitors to East Africa will be glad to have a brochure published by Shell in East Africa containing colour plates of 70 species of plants commonly seen in the upland districts. The East African flora is interesting as a bridge, as it were, between the Northern (European) flora and the Southern (Cape) flora. This is exemplified by the presence of Delphiniums (well known to European gardeners) in the same country as Proteas and Disas to make South Africans feel at home. The brochure was brought out with the assistance of Mr. J. B. Gillett, Botanist-in-Charge, East African Herbarium. Where they are known, Native names are given as well as the botanical names. The front cover carries a particularly beautiful shot of *Gloriosa simplex*, the East African version of the Fire Lily.

SPRING TOUR OF GARDENS IN EUROPE AND ENGLAND

In April/May, 1968, Professor Brian Rycroft was the leader of a party of 25 South Africans on a tour through Europe and England. Places visited included Rome, Milan, Villa Taranto, Frankfurt, Bremen, Hanover, Berlin (West and East), Stockholm, Uppsala, Copenhagen, Amsterdam, Leiden, Brussels, Paris, Kew Gardens, the Royal Horticultural Society Garden at Wisley and the Chelsea Show.

The outstanding success of the tour was due very largely to the fact that at every Botanic Garden which was visited, the group was taken round personally by the Director or Curator. This was ample evidence of the regard which these people have for Kirstenbosch and its Director.

KIRSTENBOSCH JUBILEE FUNDS

In 1963 Kirstenbosch celebrated its Golden Jubilee and as a result of the kindness and generosity of the public some funds were accumulated. These funds, augmented by others, were invested and a fair income is now being received by the Gardens each year. The interest has been used to good advantage in assisting members of the staff to visit Gardens overseas. Money from the fund is also to be used to subsidise research on the South African flora.

ANDREW BALFOUR

Mr. Andrew Balfour took up duties as a Horticulturist at the Karoo Botanic Garden in Worcester at the end of 1968 and has proved of great assistance to the Curator, Mr. F. J. Stayner, who has had to carry all the work of the Garden since the sudden death of Mr. Roy Littlewood in October, 1967. Mr. Balfour comes to the National Botanic Gardens straight from Kew where he obtained his Diploma last year. He also holds a Diploma in Arboriculture but appears to find his main interest in the succulent plants cultivated at the Karoo Garden.

FOOTNOTE

The Editor, who was extremely hard pressed for time just before this Journal went to the printers, is most grateful to members of his own staff and the Secretary of the Botanical Society for compiling these notes.

'N LENTEBESOEK AAN TUINE IN EUROPA EN ENGELAND

Gedurende April/Mei 1968 het 'n groep van 25 Suid-Afrikaners deur Europa en Engeland getoer onder leiding van professor Brian Rycroft. Hulle het Rome, Milaan, Villa Tarante, Frankfort, Bremen, Hanover, Berlyn (Wes en Oos), Stockholm, Uppsala, Kopenhagen, Amsterdam, Leiden, Brussel, Parys, Kew-tuine, die Koninklike Tuinbou-vereniging Tuin te Wisley en die Chelsea-tentoonstelling besoek.

Die uitstaande sukses van die toer kan grootliks toegeskryf word aan die feit dat die groep, by elke Botaniese tuin wat hulle besoek het, deur die kuratore of direkteure persoonlik vergesel is. Dit was afdoende bewys dat hierdie mense hoë agting het vir Kirstenbosch en sy direkteur.

KIRSTENBOSCH SE JUBILEUM-FONDS

In 1963 het Kirstenbosch sy Goue Jubileum gevier as gevolg waarvan fondse aangevul is deur vriendelike en gulde bydraes deur die publiek. Hierdie fondse, aangevul deur ander, is belê en besorg die Tuine 'n redelike inkomste elke jaar. Die rente is gebruik om personeellede te help om oorsese Tuine te besoek. Die fondse sal ook aangewend word om navorsing oor die Suid-Afrikaanse flora te subsidieer.

ANDREW BALFOUR

Mnr. Andrew Balfour het aan die einde van 1968 as tuinboukundige diens aanvaar by die Karoo Botaniese Tuin te Worcester en blyk waardevolle bystand te verleen aan die kurator, mnr. F. J. Stayner, wie al die werk in die Tuin moes behartig sedert die skielike sterfte van mnr. Roy Littlewood in Oktober 1967. Mnr. Balfour het direk vanaf Kew, waar hy verlede jaar sy diploma behaal het, na die Nasionale Botaniese Tuine gekom. Hy besit ook 'n diploma in Boomteelt maar blyk hoofsaaklik geïnteresseerd te wees in die vetplante wat in die Karootuin gekweek word.

VOETNOOT

Die redakteur, wat 'n besondere besige tyd beleef het voor die ter perse gaan van hierdie joernaal, betuig dank aan sy personeellede en die sekretaris van die Botaniese Vereniging vir die samestelling van hierdie notas.

Growing Scented Gladioli in England

Professor T. T. Barnard, England.

I have been growing many of the scented gladioli species for 40 years and during the last 20 years I have raised and exhibited at the Royal Horticultural Society selected hybrids between some of the species. A few of the best have received the Society's Award of Merit as early spring cut flowers for the cool greenhouse and many others have met with an appreciative response from the public. I hope, therefore, that a brief account of the history of my collection, my methods and aims, might interest growers in South Africa.

I began my collection of Cape Irids in August, 1926, when I returned from a weekend visit with a few corms of *Moraea tripetala* and *Moraea papitionacea* and planted them in my garden in Milner Road, Rondebosch. My main interests for the next three years were Moraeas and Homerias, but the collection was extended to include other iridaceous genera and gradually I became fascinated by the scented species of Gladiolus.

In February, 1934, I took the bulk of my collection back to England. After a summer of acclimatization in cold frames or the open ground in Surrey, the collection was moved to Dorset where I had had three greenhouses built to my own specifications. The houses were sited from north to south. Two of them had a central path with raised beds approximately 25 ft. by 3 ft. on either side. The third house had also a central path with staging on either side for pots, pans and seed boxes. Each house had a hot pipe run off the boiler that supplied the two old greenhouses already in the garden.

By 1939 one house was filled with Moraeas, mostly species and hydrids of the Peacock group such as *M. villosa*, *M. gigandra*. The other contained my Gladiolus collection plus dwarf Watsonias, some Ixion, etc.; and the stage house had pans of small Irids *Geissochiza rochensis* and Romuleas, and the seed boxes of species and hybrids that I was hopefully raising. On the outbreak of war, I had enough fuel to be able to keep the houses frost-free during the very severe frosts of January to March, 1940. After that winter the houses had no heat at all. During the next four years the collection was gradually reduced, and when I was demobilized in the autumn of 1945 the old boiler had rusted to pieces and the collection scarcely filled one house. For a further five years including the severe winter of 1947 the houses had no artificial heat.

I began by restoring and increasing the Peacock Moraea collection. The Gladioli were in a deplorable condition. It had been impossible to lift and replant more than a small section occasionally. They had become overcrowded and infected with corm rots. Some species, notably *G. caryophyllaceus*, had been lost and some interesting hybrids too. However, there was something to be saved and by 1947 I was able to get a few replenishments from Miss Stanford.

In 1950 I came to a number of decisions which altered the whole nature of my collection. I was determined not to increase my area of accommodation but to devote the 500 square feet available in the three greenhouses to the production of scented Gladiolus hybrids suitable for cutting, that would be in flower from the middle of February until the end of April. Over the next three years, the Gladiolus collection was increased, the Moraeas were disposed of (largely because they are extremely susceptible to red spider) and such other Irids as I still had were gradually squeezed out, with some unscented Gladiolus species and those, like *G. carmineus*, and *G. brevifolius*, that flower in the autumn. I also installed thermostatically controlled electric fan heaters and revised my methods of cultivation by filling the beds with ashes and growing my Gladioli one, two or four to a pot and plunging the pots in the ash. Two small sections have been retained as beds and are now used for the large tetraploid hybrid "Corfe Castle".

Whether the corms are planted in beds or in pots they are planted on the "four layer" system. A layer of crocks or coarse gravel for drainage, a layer of John Innes No. 2 with additional sand, a layer of clean white sand, sharp but fine, in which the corms are set so that they are surrounded above and below with at least one-quarter inch of sand: a top layer of the John Innes mixture. In general no extra feeding is given during growth. The thermostats are set at 40 deg. and the houses run as cool and airy as possible.

In the northern hemisphere seed sowing is best done the second week in August. All corms should be replanted, or retopped and watered by the Autumn Equinox (end of September). The plants are kept growing throughout the season until the end of April when watering is discontinued. The corms are left in their plunged pots in the houses throughout the summer until the annual lifting and repotting begins in August. Flowering time of the species is somewhat delayed under these conditions compared to their South African time-table. Species that flower here in mid-August (mid-February) flower approximately three weeks later, i.e. early to mid-March. Without artificial light and probably extra day temperature, the dark cold days from mid-December to mid-January delay growth.

The first requirements for any hybridizing programme are a good eye, a hard heart and a hot incinerator. My experiments having been confined to an area of less than 500 sq. ft., a hard heart and a hot incinerator are essential. For example, in both 1953 and 1956 I sowed 45 pans, each containing from 30-36 selected seeds only, from 45 different crosses of Gladiolus, about 1,500 seeds in all. In each year some 1,200 to 1,250 seeds germinated. The pans were turned out at the end of the season when the resulting corms were found to vary in size from a hazelnut to a pin's head. Only 800 in 1953 and only 600 in 1956 of the largest were replanted. About 25 per cent flowered at the end of their second season's growth, 18 months from sowing. Some of these were immediately discarded and others that had not done too well also; but this caused little reduction since some of the selected flowerers were potted up separately. Nearly all the seedlings flowered at the end of the third year, when selection has to be rapid and ruthless. Approximately 100 only were grown on for a fourth year, one, two or three to a pot. Eventually only 11 of the 1953 and 20 of the 1956 sowings were selected for retention and propagation.

There is little difficulty in increasing species or selected hybrids when required. Many species and most of my hybrids throw two or three spikes and produce two or three large corms. All of them produce cormlets or spawn. There is no point in sowing vast quantities of the very small spawn. It is better to grow on six to 20 of the largest cormlets well spaced. There is considerable variation in spawn production in species and therefore in their hybrids. Some only produce two to six fairly large cormlets; others produce hundreds of spawn. The record is claimed for my *carinatus* derivative "Nancy Hardy", A.M. Though a diploid, this is a fine tall plant with up to 13 flowers. The large corms have to be planted singly and invariably throw three flower spikes. One large corm potted up, clean of all spawn, was turned out at the end of the growing season and the increase counted. The result was three large corms of flowering size, one small side corm, nine fairly large cormlets worth growing on had I so wished, and 1,418 spawn. This is a variety of which I grow some 60 pots from which I reckon to cut 150 spikes or more, and to be able to replant 60 selected corms for the following season and still have 100 to dispose of and some 70,000 spawn for the incinerator! Since 95 per cent of flowering spikes are cut each year and since any spikes that do go to seed have been hybridized by the bees, except for isolated hand-pollinated species or crosses, any seed that does set is not of much value. But seed production in Gladiolus species and in the hybrids is also prodigious. A single capsule of *Gladiolus liliaceus* may contain from 350 to 400 viable seeds. No other species or hybrid can quite equal that. If I had five square miles of ground instead of 500 sq. ft., I might be more interested in seed production.

With my limited space and my interest in the production of scented spring-flowering cut flowers, I have not used a great many of the Cape species: and the foundation of my hybrid collection has been *Gladiolus tristis.* This in itself is an admirable cut flower. It has stem length and good lasting qualities but it only smells in the evening. *Gladiolus caryophyllaceus,* the great pink "Sand Lily", is also a good cut flower. But it is none too easy to grow, being very susceptible to overwatering and corm diseases. Both Miss Stanford of Bloem Erf Nursery and I lost during the war the magnificent corm we had in the 1930's. It is now becoming extremely rare in the wild and I have never had it again; or tried to secure it because its nauseating scent, aptly described by a friend of mine as "May flowers steeped in ammonia", was transmitted to all its hybrid progeny and even when diluted in the second or third generation was not, I felt, to be encouraged. That very variable species *Gladiolus carinatus* I have used a lot. Some of my first hybrids were made with the large flowered colour forms from near Hopefield. Unfortunately these are without scent and so were their progeny. None of my first generation crosses between *G. tristis* and *G. carinatus* were very satisfactory. But the latter species has provided one valuable colour element. In some forms of *G. carinatus* the yellow pigment especially on the lower segments turns to bright orange or pillar box red as the flowers open, and many of my brightest scented hybrids owe their colour to this factor, their yellow buds opening to orange or flame. I was very slow to appreciate the value of crossing the dwarf orchid-flowered species with the tall *G. tristis* or tristis hybrids. "Christabel", raised during the war and still my most popular hybrid, was an accident due to an uncleaned paint brush! One of nine seedlings that occurred in a batch which were supposed to be a cross between the Caledon yellow kalkoentjie and *G. orchidiflorus*, "Christabel" has 15-inch stems and flowers with the delicious scent of the yellow kalkoentjie: so strong that a small bunch will scent a whole house – for those that can smell this scent range. For there are some people, including the late Dr. Joyce Lewis, who are unable to smell "Christabel" at all.

Two other lines that are well represented in my present collection may be mentioned here. Early in the 1930's Captain Collingwood Ingram raised hybrids between *Gladiolus tristis* and a late-flowering form of *Homoglossum watsonium* that he collected in the Cold Bokkeveld in mid-October. These intergeneric "Homo-glads" as he has called them, are most attractive. They are late flowering and have proved hardy in many southern English gardens, flowering in April in my greenhouse and at the end of May outside. They are extremely fertile and continue to be fertile through several generations of crossing: many of the seedlings were scentless and many of them tended to be dirty, washy pinks or lavenders. By crossing Collingwood Ingram's best red seedling "General Smuts" back to *G. tristis* both Mr. Smee of Ipswich and I raised a strain of strongly scented, pleasingly coloured hybrids that make good cut flowers and in some places good garden plants.

The other group are the accidental polyploids, mainly tetraploids, that occurred in my 1956 seedlings and a few in subsequent years; all from crosses made with the pollen of a rather dingy hybrid from *G. caryophyllaceus* x *G. liliaceus* (*grandis*). I would never have kept the pollen parent but for the fact that having lost all my *G. caryophyllaceus* during the war, it was the only survivor of that line and its scent, though strong, was not too unpleasant. The polyploids were rather an exciting break. But only one of them, the white "Corfe Castle", is a first-class plant. I still keep three or four others and am trying out some of Corfe Castle's seedlings. It is a very poor seed setter, and none of them has been outstanding so far.

In selecting seedlings during the last 20 years I have been looking for plants that do well, have a cuttable stalk of 12-36 inches, a strong, pleasant scent, a good shaped flower that will last in water, and as many colours as I can get that look well "by gaslight". Very few seedlings come up to standard. Some are poor doers, some have the basal leaf sheathing the stem too high and since the basal leaf must be left, the cuttable portion is too short. Many even from scented parents have no scent, in many the flowers are thin in texture, too tubular and pinched in for my liking or messy in colour or shape. As to colour, I have no use for nurseryman's blue, mauves, lilacs or purples. Some of these may look well enough in sunlight. They all go dingy and grey by artificial light. Only deep violet, as in my lovely violet and cream "Gillian", looks well by artificial light. Unfortunately *Gladiolus tristis* tends to kill the colour in all its hybrids, but it has been invaluable as a producer of strong-growing long-stemmed, long-lasting cut flowers. I have now, however, got a good colour range among the scented hybrids I have kept. How many good plants have gone into the incinerator through too hasty a judgment on my part, I shall fortunately never know. But the work has been fun and very rewarding: for the results are undoubtedly much appreciated by many others.

Nevertheless it is permissible to ask whether the Cape species of Gladiolus and their hybrids are worth growing. Commercially in Europe just perhaps. They are not easy, they are bad mixers in greenhouses with other plants. They are not, however, too difficult grown as I have grown them in a cool, almost cold house devoted entirely to them or other Cape bulbs. And in South Africa? I am sure it is far easier to grow them successfully in my greenhouses than in this country. I have no moles, corm-eating beetles or flower- or seed-eating insects; and it is easier too for me to control the various corm diseases to which they are prone. But so many of them are so lovely that they are worth every effort, mole proofing, constant lifting, sterilized soil and a fine sterile sand layer. Sand above everything. No Gladiolus corm should ever be planted except in a pocket of clean sand.

In conclusion I may add that I have grown and flowered successfully a large number of other species that I have not used in my hybridizing experiments and I have never found any difficulty in growing them in my standard compost. But to answer a question I am frequently asked, I have not succeeded in establishing the Caledon Blue Bell; and the Riversdale Bell is almost equally reluctant to grow in cultivation though I have flowered last year, rather feebly, after five years from seed, the deep violet form of the latter from Knysna. Why the Bells should be so reluctant to adapt themselves to cultivation is a problem that might be more readily solved in this country than overseas.

Hermanus Cliff Gladiolus

(*Gladiolus carmineus*, C. H. Wright)

L. Bolus and T. T. Barnard.

Autumn at Hermanus, with the blue, blue sea as far as the eye can reach and at one's feet on the cliffs a beautiful Gladiolus – this is surely bliss for the soul of mankind to revel in! The high winds are lulled at this season – the calm even-tide of the year – and the carmine hue of the flowers recalls the rich glow of a gorgeous sunset.

Ruskin writes that "The Spirit in the plant – that is to say, its power of gathering dead matter out of the wreck round it, and shaping it into its own chosen shape – is, of course, strongest at its flowering" and that "the flower is a part of the plant's form developed at the moment of its intensest life: and this inner rapture is usually marked externally for us by the flush of one or more of the primary colours. What the character of the flower shall be, depends entirely upon the portion of the plant into which this rapture of spirit has been put. Sometimes the life is put into its outer sheath, and then the outer sheath becomes white and pure, and full of strength and grace; sometimes the life is put into the common leaves, just under the blossom, and they become scarlet or purple; sometimes the life is put into the stalks of the flower, and they flush blue; sometimes in its outer enclosure or calyx; mostly into its inner cup" and sometimes "the floral spirit passes into the calyx also" as it truly does in our cliff-loving autumn Gladiolus.

The lower segments are deeper in tone and have in their lower half a narrow, white, band-like honey-guide on each. Two to four flowers are borne on the spike, and the bracts are a little shorter than the perianth-tube. The whole plant varies in height from 6-10 inches, and at the time of flowering does not produce its long basal foliage-leaf.

Reproduced from *S.A. Nature Notes*, No. 25, by kind permission of Dr. L. Bolus.

Gladiolus carmineus is the most spectacular of the Cape species which flower in the summer months from dormant corms. Confined to the coastal arc between Hangklip and Hermanus and flowering out of season during February and March, it does not appear to have been collected until Sir C. Abercrombie Smith found it at Hermanus in 1903. He sent corms to Kew, where, having adapted themselves to the northern seasons, some flowered in September, 1905. An illustration with a description by C. H. Wright was published in the Botanical Magazine the following year (Bot. Mag. t.8068, 1906). In the description there is no mention of the plant's natural flowering season, which may explain why more than ten years elapsed before Mr. Frank Bolus obtained fresh material of the Hermanus Gladiolus from Miss L. Guthrie – "The one," she wrote, "that you have been wanting for such a long time".

The species is still reasonably common on the low sandstone cliffs from Hermanus to Betty's Bay, and has been introduced into cultivation both in South Africa and overseas. The long glaucous decumbent leaves develop about a month after flowering and persist throughout the winter, dying down in late spring. They are in my experience rather frost-tender and the species is not suitable for outdoor culture in England. As a pot plant for the cool greenhouse it grows, increases and flowers readily. The large unscented carmine flowers appear in late August or September in the northern hemisphere on rather short stems. They are not of much value as cut flowers; but a pot of flowering corms in association with the early forms of *Nerine sarniensis* makes an interesting addition to the cool greenhouse in September.

STUDIEBEURS

Die Veldblommebewaringsafdeling van die Botaniese Vereniging van Suid-Afrika bied 'n studiebeurs ter waarde van **R500.00** aan vir navorsing oor plantekologie oor enige aspek van die bewaring van die inheemse flora van Suid-Afrika.

Applikante moet in besit wees van 'n Hons.-graad in plantkunde en besig wees met 'n hoër graad.

Die studiebeurs is houbaar vir twee jaar en kan vir 'n verdere jaar verleng word.

Aansoeke moet vergesel wees van 'n uiteensetting van die beoogde projek en moet ondersteun word deur 'n verslag deur die Hoof van die Departement oor die kandidaat se navorsingsbekwaamheid.

Kandidate moet halfjaarlikse verslae oor hul werk indien en paaiemente sal elke ses maande oorbetaal word op ontvangs van bevredigende vorderingsverslae.

Aansoek en die name van twee persone van wie inligting gevra kan word moet gerig word aan die Sekretaresse, Botaniese Vereniging van Suid-Afrika, Kirstenbosch, Nuweland, K.P.

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Die Bewaring van Proteaceae en Navorsing in die Fynbosplantegroei

P. J. Grobler
Nasionale Botaniese Tuine van Suid-Afrika

* *Aangepaste weergawe van 'n referaat gelewer tydens die simposium oor Natuurbewaring gereël deur die Suid-Afrikaanse Akademie vir Wetenskap en Kuns, gehou op Stellenbosch van 14 tot 16 Maart 1968.*

Daar kan byna nie sprake van bewaring van plante wees sonder 'n deeglike kennis van die soort of groep wat bewaar moet word nie en kennis kan net deur navorsing bekom word.

Dikwels word baie ligtelik gepraat van bewaring sonder om voldoende onderskeid te maak tussen die bewaring van 'n indiwidu en die bewaring van 'n soort. 'n Indiwidu of groep indiwidue is reeds bewaar as hulle gevrywaar kan word teen 'n ontydige afsterwe. Bewaring van 'n soort behels egter baie meer: Dit beteken die bewaring van 'n opeenvolgende reeks van indiwidue en impliseer dus dat toestande gunstig moet wees vir 'n bepaalde soort om sy volle lewenssiklus by herhaling te kan voltooi. Dit sal voorkom dat ons uiteindelik met net 'n Herbarium eksemplaar van 'n soort sit nadat die soort uitgesterf het – heelmoontlik uitgeroei is!

Dit is egter baie makliker gesê as gedaan. Die hele lewenssiklus moet bewaar word, dus moet toestande geskep, of behou word, wat gunstig vir alle stadia in die siklus is. En hier lê die eerste knoop: baie, baie min soorte se hele lewenssiklus, met die faktore wat gunstig of dodelik vir elke stadium is, is bekend. In baie gevalle word vermoed en is trouens ook sekere bewyse voor, dat algehele beskerming nie die gewenste soorte bewaar nie. Daar moet dus op een of ander manier ingegryp word. Enige ingryping beteken 'n drastiese verandering in sekere omgewingsfaktore en baie min navorsers sal dit op hulle wil neem om so 'n ingryping aan te beveel in die wete dat dit op proefondervindelike gegewens berus en nie net 'n skoot in die donker is nie. Daar is nog te min bekend oor die groeivereistes van ons veldplante, hul bevrugting, die rypword van die saad of vrug, die oorlewingsvermoë van die saad, die vereistes vir ontkieming, die jeugperiode en 'n hele reeks verwante kennis.

Daar is verskillende moontlike wyses waarop 'n poging aangewend kan word om soorte te bewaar. Een daarvan is in een of ander vorm van tuin. Indiwidue kan baie goed in 'n tuin bewaar word, en deur die nodige rekords te hou kan baie van 'n soort se lewenssiklus geleer word wat van kardinale belang by bewaring is. Dit is ongelukkig waar dat baie soorte en veral soorte van die Proteaceae baie maklik verbaster. In 'n tuin waar die soorte naby mekaar staan is die kanse op verbastering uitstekend. *Soorte* kan dus nie in 'n tuin bewaar word nie. Miskien lê die taak van die Botaniese Tuin meer in die opvoeding van die publiek om hulle bewaringsbewus te maak en saad aan hulle beskikbaar te stel sodat hulle nie nodig het om die veld te beroof van saad nie. Dit kan ook kennis versprei oor die kweek van soorte en die belangstellende navorser voorsien van 'n sekere tipe materiaal en dien as vertoonvenster en lewende indeks van die flora.

Die alternatief is om die soorte in hulle natuurlike omgewing te bewaar. Dit kan gedoen word eerstens deur die veld of meer spesifiek die gemeenskap waarin die soorte voorkom teen vernietiging te beskerm. Indien 'n gesogte soort deel uitmaak van 'n bepaalde stadium in die gemeenskapsontwikkeling sal dit ook vervang word deur 'n volgende stadium in die suksessie en sal totale beskerming dus in dié gevalle nie die gewenste uitwerking hê nie. Dit laat die tweede moontlikheid – dat die stadium in die gemeenskapsontwikkeling gehandhaaf moet word wat na ons mening die gewenste is. Dit is 'n praktyk wat al lank reeds beoefen word in weidingsbeheer in die Somerreenvalstreke waar 'n ekonomies ontginbare stadium gehandhaaf word. Ook in die fynbos was dit gebruiklik in die dae voor die beperking op verkoop van veldblomme om groot lappe bergveld te brand terwille van die blomme (hoofsaaklik geofiete) wat na die brand opvallend was. Dit word ook dikwels aangewend om ruie of ou veld weer ,,oop" te kry. In baie gevalle was dit hier in die Wes-Kaap dus 'n vuurklimaks. Al die ,,behandelings" wat toegepas word berus baie min op gekontroleerde proefondervindelike werk en die veld word baie maal onberekenbare onherroeplike skade berokken deur hierdie beplande – en ook ongeluksvure.

Feit egter is, dat enige ingryping drasties sal wees, wat ook al die metode is wat gevolg mag word, en al bestaan daar teorië oor hoe die veld sal reageer, is daar nog heeltemal te min kennis om gesaghebbend 'n sekere beheermaatreël vir 'n spesifieke doel voor te skryf.

DIE BEWARING VAN BEPAALDE SOORTE

Word Fynbosplantegroei genoem, word daar onwillekeurig aan die Proteaceae gedink. Van die 1,100 Proteaceae soorte wat hoofsaaklik in die Suidelike-Halfrond gevind word, kom ongeveer 360 soorte in Suid-Afrika voor. 'n Australiese geslag van die Proteaceae wat uitstekend aard in die Winterreenstreek is sommige van die Hakea soorte wat nou niks anders as pesplante is nie.

In teenstelling met die Hakea wat so ontstellend vermeerder is daar inheemse Proteaceae soorte wat op die rand van uitsterwing is. Vir die huidige is die *Orothamnus zeyheri* die mees bedreigde. In die Kogelbergreservaat is daar op een kol op die Paardeberg in ± 1948 'n groep van 150 plante gevind. Gedurende 1962 kon nie 'n enkele plant op die Paardeberg opgespoor word nie. Op ander bergpieke in dieselfde reservaat is die prentjie net so donker. Waar tot 'n paar jaar gelede nog groepe van tot 18 was is daar nou net vyf of ses oor.

Al wat bekend is van die *Orothamnus* is dat dit 'n monotipiese genus van die Proteaceae is. Dit kom op die pieke van die Hottentots-Holland reeks voor – in wat miskien die beste as goedgedreineerde moerasse beskryf kan word. Dit is nat grond met 'n baie hoë persentasie organiese materiaal en 'n pH van rondom 3. Die plant self het 'n min vertakte regop groeiende vorm met loofblare net aan die laaste 12-18 duim van elke tak. Deur 'n ,,blom" te pluk word dus gewoonlik ook nog die hele tak gedood omdat al die blare verwyder word. 'n Onvertakte indiwidu word so gedood. Soms egter lyk dit of plante doodgaan as daar net na hulle gekyk word. Dit word vermoed dat die dood hier veroorsaak word deur die vastrap van die grond en die gevolglike beskadiging van die vlak verlopende wortels wat baie algemeen by die proteas gevind word. Geen blywende sukses is nog met steggies of saad behaal nie en dit lyk asof die einde in sig is vir die *Orothamnus zeyheri*. Die Kogelbergreservaat is Bosbou grond en alhoewel gekortwiek deur 'n gebrek aan proefondervindelike verkreë kennis neem die Departement nou daadwerklike stappe om dié soort te red. Daar word nou gedeeltes van die bekende groeiplekke afgebrand en omhein in 'n poging om saad wat in die grond mag wees aan te help om te groei. Oor die toekoms van die hele Kogelbergreservaat as geheel hang ook 'n groot vraagteken as die planne om 'n 4-laan nasionale pad reg deur die middel te neem, deurgevoer sou word.

Die *Protea odorata* is 'n kleinerige soort (sowat 12 duim hoog) met 'n roomkleurige blommetjie en 'n onderskeidende geur. Nadat dit vir 'n lang tyd geglo is dat dié soort verlore is, is dit weer herontdek op 'n beperkte area naby Kalbaskraal in die Malmesbury distrik. Dit word deur uitroeiing bedreig deur die aanlê van moderne paaie en veral deur landerye en Rooikrans (*Acacia cyclops*). 'n Komitee is saamgestel en was suksesvol om 'n gedeelte omhein te kry. Dit sluit onder meer ook *Saphesia flaccata* ('n Mesem) in. Maar nou, nadat die heining opgerig is en die Rooikrans uitgekap is: Wat van die natuurlike gemeenskapsontwikkeling? Gaan die *Protea odorata* uit die beskermde reservaat verdring word? Indien ingryping nodig is om die bepaalde gemeenskap in stand te hou, is daar ook nog te min kennis vir dié gedeelte beskikbaar.

Nog 'n lid van die Proteaceae wat aandag geniet het in die jongste verlede is die pragtige *Mimetes hirta*. Dié soort kom op klam plekke in die Skiereiland en in die Kogelberge voor.

Daar was gevrees dat die uitbreiding van Bettysbaai die voorkoms van die soort in die Kogelberg omgewing bedreig. Gelukkig is daar nog op ander plekke in die reservaat van die soort gekry. Ons hoop net dat die berugte pad nie ook die kolle sal uitwis nie. Redelike sukses is gelukkig al met steggies behaal deur navorsers van die N.I.V.V., Stellenbosch, sodat die soort as soort selfs in 'n tuin bewaar sal kan word indien die beste pogings misluk om dit in die veld, waar dit hoort, te bewaar.

Op dieselfde manier kan ander skaars soorte soos die *Protea aristata* van die Swartberge, *P. stokoei*, *Mimetes stokoei* van die Kogelberg en baie ander genoem word en elke keer sal dit terug kom op dieselfde basiese feit: skaars soorte wat in die veld bedreig word met totale uitwissing kan alleen gered word as die nodige kennis beskikbaar is.

Maar dit is egter nie net die skaars soorte wat ons aandag verdien nie. *Protea cynaroides* is 'n baie volop soort en kom byna regdeur die hele Winterreenstreek voor. In sekere dele kan dit gebeur dat dit daar plaaslik uitgeskakel kan word. Ook hier behoort dit bewaar te word al bestaan daar geen gevaar dat dit as 'n soort uitgeroei sal word nie. Die ideaal sal altyd wees om 'n soort oor sy hele area te behou, al is dit net om belangrike vorm variasies te behou. Die silwerboom, *Leucadendron argenteum*, word nog redelik wydverspreid gevind en waar dit voorkom is dit lokaal volop. Daar is egter dele waar dit voorheen 'n lus vir die oog was en nou verdwyn het. Selfs die volop plante is ook 'n bewaringsprobleem en nie net die skaars soorte nie.

'n Uitbreiding van hierdie gedagte is dan om gemeenskappe as eenhede te bewaar. Dit is onprakties om die hele vegetasie van 'n streek te bewaar; dit moet ongelukkig plekmaak vir menslike bedrywe maar verteenwoordigende monsters of voorbeelde behoort bewaar te kan word. Hier sal weer die vraagstuk van beheer opduik. As die hele ekosisteem van plante en diere nie bewaar kan word nie of as die terrein te klein is kan 'n gebalanseerde ekosisteem nie gehandhaaf word nie en daar sal moet ingegryp word om die gewenste ontwikkelingsstadium te behou. Wat die metode is waarop ingegryp moet word sal alleen deur ondersoek aan die lig kom.

Om sake nog ingewikkelder te maak moet ingedagte gehou word dat elke berg of bergreeks 'n flora het wat tot 'n groot mate verskil van dié van sy omgewing sodat as veldnavorsing op die perseel of enige vergelykbare metode gedoen word, dit vir elke berg herhaal sal moet word, totdat daar bewys is dat die *Protea stokoei* van die Kogelberg dieselfde reaksie op 'n versteurende faktor het as *Protea marlothii* van die Sederberg.

Die plek van die syn-ekologiese studies in elke berg kan geneem word deur 'n noukeurige studie van elke soort se lewensloop met spesiale verwysing na kiemkrag, rus-periodes, remstowwe, jeugperiode, blomtye, rypsaad en ouderdom. Dié behoort aangevul te word met soveel moontlike gegewens oor die reaksie van die soort op sekere faktore soos beweiding, brand, droogte en indien moontlik vatbaarheid vir sekere siektes: Heeltemal basiese navorsing dus, wat alle toegepaste navorsing behoort vooraf te gaan.

As die gegewens bekend is en saamgevat is in 'n indeks behoort dit moontlik te wees vir 'n navorser om met 'n floristiese lys en die indeks baie goeie voorspelling te waag oor die reaksie van die veld op sekere versteuringsfaktore. So 'n indeks van soorte behoort 'n afsonderlike tydskrif te wees en nie opgeneem te word in enige bestaande tydskrif nie sodat dit kompak en maklik bruikbaar kan wees.

Dit sal dan waarskynlik 'n makliker wyse wees om soveel moontlik tewete te kom van die gedeeltes wat bewaar moet word.

Onmiddellik kan die vrae nou ontstaan – wie is verantwoordelik vir dié allernoodsaaklike navorsing? Is dit die taak van die plaaslike owerheid wat 'n poging wil aanwend om 'n stukkie plaaslike veld te bewaar of is dit die taak van 'n Universiteit? Waar moet die fondse

vir so 'n nie-kontantvoortbringende aktiwiteit vandaan kom? Is daar voldoende opgeleide werkers beskikbaar en bestaan die navorsingsgeriewe? Met die huidige opset is dit net die Staat wat op 'n georganiseerde en gekoördineerde wyse die taak sal kan aanpak. Dit is dan trouens ook die Navorsingsinstituut vir Plantkunde wat die meeste werk in hierdie verband verrig, so goed moontlik met die beperkte mannekrag en fondse.

(Prof. P. G. Jordaan, Hoof van die Plantkunde Departement, Universiteit van Stellenbosch, word bedank vir sy hulp met die opstel van dié stuk.)

The Society's Lectures

D. R. D'Ewes
President, Botanical Society of South Africa

Since the Society organizes several lectures a year for the interest and instruction of members able to attend, it is not always easy to find speakers able to fit into our time-table for talks on relevant subjects and with access to slides to illustrate their lectures. Since, also, some of our speakers are unpractised in this kind of performance, we have thought it might be useful to print a few notes about the basic technique of a lecture-with-slides.

The first and almost all-important point is the subject. We are a botanical society specializing in the plants of Southern Africa. The main subject-matter of the talk must be relevant to this.

Discussion of general garden technique, for example, would be more relevant to a meeting of a horticultural society or a garden club; and travelogues about garden and tree visits abroad must have some relevance to our own flora. A good example of this was Mr. Walter Middlemann's talk a couple of years ago on South African plants, mainly Proteas, in the United States.

Also of fundamental importance are the number and arrangement of slides. For a comfortable talk, that will not tire the audience, there should not be more than 100 slides. The enthusiasm of specialists to show a lavish selection of slides is understandable, but our audiences are not on the whole either students or botanists, and their receptivity must be conservatively rather than extravagantly assessed.

For the same reason it is just as essential that the slides should be chosen for as much visual variety as possible within reason. Four or five score close-ups of the same genus one after another, for example, will tire an audience of amateurs, as most of our members are – and probably an audience of experts too.

Even when the lecture is on one particular kind of plant the illustrations can be varied by alternating close-ups of flowers with pictures of whole plants, mid-distance shots of plants in their natural habitat, and some slides showing the kind of landscape in which they occur. Even a few slides of botanists with bottoms up and noses down to the ground will not come amiss, or an occasional study of a pest insect on a plant in the wild.

It goes without saying that the lecturer must do enough homework to have the names of plants pat-off, must be familiar with the order in which the slides will come, and must have them all correctly orientated so that as few as possible will first appear upside-down.

It is essential too that the lecturer should assure himself well before the meeting that the projector is the correct distance from the screen, that the slides fit the projector, and that if a magazine is used it be briefly tested beforehand to ensure that everything is in working order.

Finally, it is better to shout than to mutter. The most eloquent and interesting lecture is a somnolent loss unless even the slightly hard of hearing can follow it with reasonable comfort.

MR. L. C. LEACH — BOLUS MEDALLIST, 1968

E. A. Schelpe
Bolus Herbarium, University of Cape Town

Mr. L. C. (Larry) Leach, the recipient of this year's Bolus Medal, earned this award for his contributions to the knowledge of the African succulent Euphorbias and Stapeliads. Although he has discovered a number of new species of plants on his extensive travels through East Tropical Africa, probably his most valuable contribution has been tracking down old, imperfectly known species to their type localities and establishing their correct identity.

Larry Leach was born in England at Southend-on-Sea in 1909 and emigrated to Rhodesia in 1937 where he started a business in Aircraft and Automotive Electrical Engineering. When he retired in 1953 he developed an interest in succulent plants and soon found that he wanted to know more than he could glean from the available literature. This led to serious systematic collecting over most of Rhodesia, and the neighbouring areas of Mozambique, as well as on tours of the Republic and Malawi. However, it was not until 1959, after the death of his wife, Ann, in the previous year, that his botanical travels began in earnest.

In 1959, he covered the southern parts of the Karroo and various parts of Rhodesia, and also made excursions to Mozambique and Zambia. In the following year he was in eastern Botswana with Dr. A. R. A. Noel studying *Euphorbia griseola* at its type locality and then he again visited Mozambique with Prof. H. Wild. In May of that year, he attempted to reach Goa Island off the northern Mozambique coast, the type locality of *E. angularis*, but had to abandon the attempt at Mandimba because of an allergy to mosquito-bite developed on the previous excursion. In June he set out for East Africa with the object of locating as many as possible of the Euphorbia species of that region at their type localities. His route was through Abercorn to Kalambo Falls, Sumbawanga, the Mbezi Forest overlooking Lake Rukwa, Mbeya, Iringa, Morogoro, Dar-es-Salaam, Bagamoyo, the Usambara and Pare Mountains, Tanga, Mombasa, Voi, and Kibwezi, eventually returning via Zomba and Mlanje Mountains, and culminating in another fruitless attempt to reach Goa Island.

However, at the third attempt, with the assistance of the Portuguese Naval Authorities, he landed on Goa Island only to find that *E. angularis* was neither flowering nor fruiting. The rest of 1961 was occupied with further excursions in Rhodesia, Mozambique and Transvaal.

In the winter of 1962 the author teamed up with Larry Leach on an expedition to northern Mozambique with the apparently incompatible aims of collecting ferns and succulent Euphorbias. Although a near-fatal virus dysentery "grounded" the expedition for a week in Blantyre, it went on to cover its two main objectives, the Ribauè and Namuli massifs. In 1963, Larry Leach and Col. R. Bayliss were operating in the Sul do Save and Lourenço Marques districts of Mozambique. In August of the following year, he was back on Goa Island, collecting, at last, flowers and fruit of *E. angularis*. Later in the year he and Bayliss visited Botswana and the eastern Cape Province, and during the winter of 1965 covered Ovamboland and other parts of South West Africa.

In October, 1966, Leach travelled to the Kabompo gorge in north-western Zambia with Dr. Williamson to study an undescribed species of Euphorbia, and later in the year did more field work in the eastern Cape Province with Col. Bayliss. In 1967, Larry Leach and Mr. I. C. Cannell, with financial assistance from the C.S.I.R., launched an expedition to Angola. Their itinerary included Cuchi, Malanje, Nova Lisboa, Benguela, Novo Redondo and Luanda, returning via Sá de Bandeira and Mossamedes. Such a wealth of material of both undescribed or little known species was collected on this expedition that Larry Leach is commendably desk-bound until the working up of his Angolan collections has been completed.

His excellent field work has resulted in five new species in the genera *Aloe*, *Cheilanthes* (a fern), *Dombeya*, *Eulophia* and *Huernia* commemorating his name, but it is his publications in scientific journals that led to his recognition as an outstanding amateur botanist in Southern Africa. Larry Leach is indeed a worthy recipient of an award named after the late Dr. Harry Bolus whose contributions, as an amateur, to South African botany will rarely, if ever, be equalled or surpassed.

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The Wild Flowers Protection Section of The Botanical Society of South Africa is offering a scholarship to the value of **R500.00** for research in plant ecology in connection with any aspect of conservation of South African indigenous flora.

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Half-yearly reports will be required from candidates and payments in six-monthly instalments will be made on receipt of satisfactory progress reports.

Application with names of two references should be sent to The Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, Cape.

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Cold Storage and Shipment of Protea Flowers during 1967 amd 1968

L. Ginsburg, G. H. de Swardt and J. M. Strauss, *Fruit and Food Technology Research Institute, Stellenbosch*

The orbit of refrigeration in the modern world is an ever-widening one. Even humans are no longer sure of escaping direct personal low temperature storage contact. The prospect of being deep frozen and then thawed at a later stage is confidently being predicted today. This stage, however, has not yet been reached even with fruit, vegetables and flowers, i.e., returning them from a frozen to a truly alive condition. It is important, when considering storage of fruit, vegetables and flowers, to differentiate between cold storage, i.e., chilling of products and deep freezing. Fruit, vegetables and flowers after picking remain alive. They continue to respire, absorbing oxygen and emanating carbon dioxide and small quantities of other gases, while the post harvest metabolic functions continue. During cold storage the respiration and relatively normal metabolic processes continue. When products are deep frozen, they are cooled to well below their freezing point and they are then no longer alive, for respiration and other normal post-harvest metabolic processes have ceased. When deep frozen products are thawed, deterioration sets in rapidly.

Deep freezing of fruit and vegetables is well known but it is also practised on flowers. The Australians at the Kew Garden 1968 "at-home" put on a novel display of four Western Australian species of flowers that were in effect frozen (E. G. H. Oliver, 1968). The flowers were *Grevillea leucopteris* (Proteaceae), *Nuytsia floribunda* (Loranthaceae), and the Kangaroo Paws, *Macophidia fulginosa* and *Anigozanthos manglesii* (Haemodoraceae). They were embedded in two large cones of ice three feet tall. The flowers were preserved in the ice and despite having been in this condition for 18 months, looked as fresh as if they had just been picked. The freezing of the water in which the flowers are embedded takes place very gradually. Cooling is accompanied with continuous agitation of the water. This ensures a crystal-clear ice. The ice cones were kept on display during the day but cold stored at night. Like with all frozen perishable products, once the flowers were out of the ice they drooped and were of no further use. Storage of flowers in ice is a novelty and of limited value.

Storage of flowers in the live form has recently been receiving a lot of attention in many countries. As may well be expected, cut flowers have received priority treatment in this field, i.e. in Europe and America. In South Africa we have recently concentrated largely on Proteaceae.

The demand for information on flower storage in the U.K. and the U.S.A. is for short-term storage embracing up to one week and in special circumstances up to two weeks' storage. In the Republic of South Africa flower storage must be viewed on a much wider front. The fact that S.A. is situated in the Southern Hemisphere places it in an ideal position to supply Europe and the U.S.A. with flowers during their long, cold winters. This operation is feasible when done by air, but the cost is high, viz. R1.56 per kilo for quantities up to 100 kilos. The freight rate drops dramatically when larger quantities are sent and is 60 cents per kilo for 500 kilos and over. The sea freight for small quantities, i.e., under 100 kilos is approximately 40 cents per kilo. It is difficult to compare sea and air freight charges accurately, for the sea freight is charged on a volume basis while per air the charges are on an actual weight basis. There is, however, no doubt that the air freight is from twice to four times as expensive depending on the weight of the consignment. Sea transport is a slow form of travel and accordingly involves relatively long-term storage which from S.A. is generally from two to four weeks depending on availability of shipping.

The control of temperature is the most important factor for the successful storage of flowers, though relative humidity must also receive due consideration, as this aspect is all-important with regard to the drying out of the flowers. The accumulation of volatiles is another hazard that calls for attention.

The generally recommended range of temperatures for most flowers investigated ranges from 31°F (—0·6°C) to 40°F (4·4°C) depending upon the species and whether short or relatively long-term storage is envisaged.

With flower wholesalers, storage from several hours to a few days is called for. Temperatures of 33°F to 35°F are much better than 40°F, i.e., for most flowers. The retailer generally handles a mixed bag (bouquet of flowers); here, too, storage seldom exceeds a week. A temperature of 40°F is recommended for retailers. Despite this being somewhat above the optimum storage of most flowers, it is certainly a safe temperature as short exposure at this temperature will generally not injure cold-sensitive flowers. In the U.S.A. newer storage techniques are also being tried on flowers, and concerted attention is being paid to chemical preservatives – a field which was stimulated by J. Aarts of the Netherlands in 1957.

Concerted work at the F.F.T.R.I. on pre-storage and post-storage treatments has shown that thus far all pre-storage treatments on Proteaceae has been unsuccessful. Post-storage treatment applied to the water in which the flowers have been placed has been found to yield very worthwhile results. The mixture applied varies somewhat from that used by Aarts, viz. 4% sucrose and 0·003% $AgNO_3$ as a bactericide. The F.F.T.R.I. solution consists of 1·75% sucrose, 0·025% maleic hydrazide, 0·001% aluminium sulphate, 0·01% citric acid and 0·001% hydrazine sulphate as the preservative. Thirty-five gms. of this mixture is added to four pints of water. This mixture has been found to give better results for Proteas than the Aarts mixture or other mixtures such as Everbloom, etc. All mixtures tried were generally found to be better than no additive. The mixture with maleic hydrazide was found to assist the opening of flowers, which were picked and stored either just closed or partially opened at the time of storage. A factor to be guarded against during storage of proteas is the blackening of the foliage. This occurs very readily when the flowers have been stored in sealed polyethylene bags. The placing of the flowers following storage in sealed polyethylene bags in the sucrose solution was very successful in avoiding this development of foliage blackening.

The present method of packaging proteas for shipment to the United Kingdom and other distant markets is as follows: The flowers must be picked at such a stage that they will open after storage. It is a great benefit if the flowers can be picked when the buds are at an advanced but still closed stage, for under such conditions the insect infestation in the flowers will virtually be nil or exceedingly low. This is not possible with all flowers as some species will not open if picked closed. The picked flowers must be transported to the packing station, which should include a cooling chamber. On arrival the flowers should be placed in the cooling chamber and the temperature reduced to the appropriate temperature, depending on the market they are intended for. When the flowers are to be sent in non-refrigerated holds of aircraft or per train on journeys lasting for one to four days, then a temperature of 50°F to 55°F is recommended. The relatively high temperature is chosen to limit water of condensation forming, when such flowers are removed to the ambient temperature at which they will be transported. Such flowers are packed in polyethylene lined boxes. It is important to ensure that sealed polyethylene bags are avoided where storage is at ambient temperatures.

Proteas intended for shipment at low temperatures are pre-cooled on arrival to a temperature of 35°F. The flowers are initially held in open trays in the cold store and the temperature is down within one day. The flowers are then packed into polyethylene bags which are heat sealed. The poly bags are then packed into a telescopic carton. The bags are firmly tied or strapped to the base of the carton. It will generally be found that once the flowers are packed into cartons that there are many free spaces in the carton. These are filled with appropriately sized polyethylene bags stuffed with woodwool. The bags are so placed to fill the gaps. The aim is to ensure that a minimum movement of the flower heads takes place during storage. The cartons should include ventilation slots. Once packed the cartons are replaced in the cold store to pre-cool them to the correct shipping temperature. The time of such storage is often dependent on the availability of the ship. It is important to note that the protea flowers are not put into water after picking, i.e. prior to packing. This practice is generally followed by florists but with all the protea species investigated thus far, holding in water prior to packing leads to a poorer storage quality. It shortens the decorative life of the flower, i.e. after storage.

The correct procedure to follow is dry packing in polyethylene bags and shipment at the correct shipping temperature, followed by rapid removal of the flowers out of the bags once the cartons are discharged from the ship's refrigerated decks. If the flowers cannot be removed from the bags then the polyethylene bags should be punctured. This step is necessary to avoid the build up of high CO_2 and very low O_2 concentrations in the bags. When the flowers are removed from the poly bags, the stems should be cleanly cut $\frac{1}{4}''$ to $\frac{1}{2}''$ from the bottom end of the stem. The cut flowers must then be placed in vases holding water, which contains the correct concentration of the amount of preservative recommended for the specific flowers.

STORAGE TEMPERATURES

Flowers follow the same pattern as fruit when considering storage. The correct picking stage is important and each fruit, vegetable or flower has its own optimum storage conditions. Both temperature and relative humidity are important. The relative humidity for protea flowers should be 90% or higher. As the flowers are packed in sealed polyethylene bags, the relative humidity is not a function of the ship's refrigerated deck. The polyethylene bag ensures a 95% to 96% R.H.

Some of the optimum shipping temperatures determined for proteas at the F.F.T.R.I. are as follows:

P. cynaroides, *P. compacta* and *P. neriifolia*, 35°F.

P. barbigera responds best at 40°F.

P. pulchra, *L. patersonii*, *L. catherinae*, *L. nutans* do well at any temperature from 32°F to 40°F with the best results at 32°F.

S. florida does best at 32°F.

Ships' decks are very large and it will be a long while before sufficient proteaceae are exported per ship to fill a full deck. This means that the proteas must be accommodated in the most suitable refrigerated deck which is available. The bulk of the proteas are available when the main refrigerated commodities being shipped are citrus and eggs. The lowest temperature generally used for citrus is 40°F and eggs 32°F. The refrigeration in the egg chamber is stopped two days prior to the ship docking and the temperature is allowed to rise to a maximum of 40°F. The egg deck is thus preferred for the shipment of proteas. Instructions are given that if possible the proteas should be stowed at the air-return end of the chamber, i.e., a temperature of 33°F to 34°F may be expected in this part of the deck. The cold air at 32°F first passes over the fruit and removes the heat load which would be leakage, fan power and heat of respiration, thus raising it by 1° F by the time it gets to the discharge ends.

PILOT SHIPMENT OF PROTEAS 1967

Two pilot shipments of different proteaceae species were exported and sold on the Covent Garden Markets during 1967. The results proved conclusively that shipment per sea was a commercial proposition, i.e., provided the phytosanitary requirements of the importing country can be met. The proteas were shipped in egg chambers.

P. cynaroides, *P. barbigera*, *Leucospermum nutans*, *L. patersonii*, *L. catherinae* all carried very well with *L. patersonii* and *L. catherinae* looking as if they had just been picked. *Leucodendron grandiflorum* and *Leucodendron discolor* also arrived in a very good condition, *P. obtusifolia and P. compacta* arrived in a good condition though some of the flowers arrived with partially blackened foliage. The partial blackening of some of the foliage was not seriously frowned upon by the florists. They even indicated it could be put to good effect in certain floral arrangements. The upper leaves were generally those that developed the most severe blackening. A correlation appeared to exist between the picking stage and the incidence of blackening of foliage, the more advanced the picking stage, the greater the incidence of blackening of foliage. *Serruria florida* arrived in a sound condition though petal damage was met with in certain cases. This could be overcome with an improved packing technique. Poor results were found with *P. eximia* and *P. neriifolia;* both these species readily developed blackening of the foliage. *P. eximia* had the further disadvantage that the flowers generally failed to open and the petals were discoloured to a brown colour. *L. reflexum* arrived in a poor condition; the heads were easily crushed and the vase life of this flower was limited to only a few days.

The buyers showed a great interest in the protea flowers, which were offered for sale on the Covent Garden Market and they were snapped up at very lucrative prices. The buyers indicated strongly that they would prefer bags containing several kinds of protea flowers, i.e., they would like a sealed polyethylene bag with a *P. cynaroides*, *Leucodendrum grandiflorum*, *L. patersonii*, etc., rather than bags with a number of proteas of only one specie. In this way they could buy a selection and limit the handling of the flowers to a minimum.

The decorative life of these flowers was two weeks and longer for most of the species – *L. reflexum* and *P. eximia* were the two exceptions.

SOUTH AFRICAN WILD FLOWER DISPLAY AT THE OPEN DAY AT THE ROYAL BOTANIC GARDENS, KEW, ENGLAND

In reply to a request from the South African liaison officer at the Royal Botanic Gardens, specimens of proteaceae, ericas, brunia and other plants were sent for an open day at Kew Gardens held on the 3rd and 4th May, 1968. This occasion was simultaneously used to investigate sea transport of flowers. Flowers were collected from the F.F.T.R.I. experimental farm at Oudebosch and from a private grower at Stellenbosch and Piquetberg. Mention must be made of the very fine co-operative spirit displayed by a team of private protea growers who are always ready and keen to supply material for experimental purposes.

The bulk of the flowers for shipment by sea were picked on 11th April, and stored at 35°F until the 16th April, when they were packed in the manner already described and stowed in the ship's deck at 32°F. They were discharged from the ship on the 29th April. The flowers arrived at the Royal Botanic Gardens on the following day when the flowers were removed from the cartons and sealed plastic bags on the 30th April and placed in the solution of the required concentration.

The weather conditions, from the time of the arrival of these flowers until they were displayed on the 3rd and 4th May, were cool and overcast. Rain fell during the discharge of the cartons, resulting in the wetting of cartons, some of which collapsed. Despite the damage to the cartons, negligible damage to the flowers in the polyethylene bags in the cartons was reported. Some condensation of free moisture was found on the inside of the plastic bags when they were opened.

Despite the 24 days since picking which included 19 days' storage at a temperature between 32°F and 35°F and a further five days at ambient temperature, the flowers were all in a very good condition. Most of the species of protea arrived in a very good condition. The exceptions were some of the specimens of *Protea neriifolia* and some of the *P. eximia* where partial blackening of the leaves had occurred. The blackening occurred around the edges of the leaves and only in the leaves nearest the flowering head. No blackening appeared to occur in other specimens of *P. neriifolia.* It seemed to be confined to the specimens with a more glaucous leaf as in *P. eximia.*

The species *P. longiflora*, *P. repens*, *P. cynaroides*, *P. mundii*, *P. compacta*, *P. lepidocarpodendron* and *P. pityphylla* all retained their excellent condition until well after the display. The ideal stage for packing for export appeared to be the advanced bud stage, which is compact for packing and is not damaged by movement in the carton. The flowers opened soon after being placed in water and were attractive specimens.

CONSIGNMENT PER AIR TRANSPORT

The flowers for the consignment sent per air were picked on Monday, 29th April, cooled to 50°F and packed in cartons and sent per air on 30th April, arriving at the Heathrow Airport on the 1st May. These flowers were unpacked and placed in the appropriate solution on the day of arrival. As already described, the weather was cool. The condition of the flowers sent per air was fresh and excellent. No signs of blackening of leaves in the proteaceae were found. As could be expected the flowers in this consignment showed signs of a longer vase life than for similar flowers sent per sea. This is as expected, for the consignment per sea, at the time of display, had already been stored for 19 days and subjected to five days at ambient temperature, compared with a total time of five days between picking and display for the flowers sent per air.

This consignment sent per sea to Kew in 1968 confirmed the results found during 1967 and has proved that sea transport of proteaceae presents no major problems any longer. Care must be exercised in the species selected for export. *P. eximia*, *L. reflexum* and some of *P. neriifolia* do not arrive in as good a condition as found for the very many other species which stand up to long term storage successfully. Local tests have shown that many species can be successfully stored for five weeks and still possess a very good vase life. Proteaceae may thus under refrigerated conditions be shipped to any part of the globe. The problems which are still to be overcome before many of these markets may be probed, are bound up with complying with phytosanitary requirements.

ACKNOWLEDGEMENTS

The selection and picking of the flowers was undertaken by Mrs. M. Vogts and G. G. Rousseau of the F.F.T.R.I. Special thanks go to Mr. Batchelor, Mrs. Mellish and other private growers for supplying flowers. The packing of the flowers was done by A. G. Visser and other members of the Cold Storage and Transport Section Staff. The display and examinatian of the flowers at Kew Gardens was undertaken by E. G. H. Oliver, the S.A. Liaison Officer at Kew Gardens at whose request the flowers for the Kew "at-home" were sent overseas. The management of Co-operative Shipping are thanked for making all the necessary arrangements for the sea and air transport of the different consignments exported to the United Kingdom.

F.F.T.R.I. Fruit and Food Technology Research Institute.

Some South African Perennials for the Garden

J. H. S. Winter
Curator, Kirstenbosch Gardens

The interest and enthusiasm shown by the general public in the indigenous flora of South Africa is gaining momentum rapidly, with the realisation of the tremendous floral resources this country has to offer.

Until recent times the succulents, Proteaceae and Ericaceae groups have, by and large, probably stimulated most interest. These, however, represent a very small part of our flora. Nevertheless, with this growing interest and use of our native flora, landscaping in South Africa is developing a style typical of and harmonious with our natural surroundings.

To grow any particular plant successfully it is essential to know which conditions that plant requires in order for it to thrive. The ecology of some plants is very critical, while others are hardy and can withstand varied conditions. However, in order to derive the maximum enjoyment of all the attributes of a particular plant subject, one must obviously provide ideal conditions.

Rochea coccinea, probably one of the most colourful and striking of our local Crassulaceae, bears bright red clusters of flowers at the growing tips in mid-summer. Grown from seed in early spring allows for maximum development and growth during the warm summer months, and the following summer one will be rewarded with a mass of flowers. If sown late in summer they will not flower the following summer. Propagation may also be done vegetatively without difficulty. Short cuttings are prepared and placed in a clean sharp sand or a very sandy loam, watered well initially and then kept on the dry side until well rooted. I see little advantage in propagating vegetatively if one has sufficient seed.

Growing to a height of 18 in., *Rochea coccinea* is ideal for bedding, grouped among rocks in the garden or as a pot plant in full sun or semi-shade. Good drainage is essential and protection from severe cold conditions is advisable. Once the seed has been harvested, prune by removing all tall growing shoots and this will encourage plenty of new growth.

Selago thunbergii is an absolute gem in the garden, smothered in tiny pale blue flowers in the spring. This woody perennial bears its flowers on the current year's growth and after flowering requires a drastic pruning. This encourages new growth for the following flowering season.

S. thunbergii roots readily from soft-wood cuttings, growing rapidly to maturity within six months. Propagation from seed is also possible but not as rapid as the vegetative method. This perennial enjoys a warm, sunny situation, good drainage and plenty of nourishment. Under ideal conditions and with regular pruning it will grow to a height of two feet.

Melianthus major, a member of the Meliaceae, is probably the best known and most attractive of this family. The leaves being large, deeply divided and bluish-green in colour, form a most appealing effect when planted as a group, which under ideal conditions can reach a height of four feet or more. The flower spikes appear in late summer with reddish-brown bracts attached.

Being hardy, *M. major* can withstand frost; but it enjoys a moist damp situation. Each spring when the first signs of growth appear, all the previous year's growth should be removed. Seed is set readily in autumn; and within a couple of months after sowing one has young seedlings ready for the garden.

Asparagus sprengeri, of the family Liliaceae, and one of the more attractive of the Asparagus group, grows easily from seed, which germinates rather erratically. *A. sprengeri* develops into an ideal ground cover, producing fronds of up to three feet in length, light green in colour and is always most useful for decorative purposes. A moist shady situation is essential to grow this plant successfully.

A cultivated form of *A. densiflorus*, better known as *A. myersii* (origin unknown), produces compact cylindrical fronds, tapering to a point, and is probably the most handsome of all Asparagus. Grown mainly as a pot plant, it gives the impression of setting little seed when indoors; however, if placed in the open where all pollenizing agents are able to move about unrestricted, *A. myersii* sets seed quite freely. Asparagus love plenty of nourishment in the form of well rotted manure during the summer months.

Monsonia speciosa is a member of the Geraniaceae family, which lies dormant much of the dry summer months in the Cape and comes to life during the winter, producing finely divided leaves borne on long stalks. The flowers, large and pink in colour, appear in the spring and early summer.

M. speciosa grows readily from seed and root divisions. The seed sown in February and the root divisions (1 in. long) prepared at the same time while the plant is in a dormant state. Place the root sections in a mixture of leaf-mould and sandy loam. Occurring naturally in the S.W. Cape, *M. speciosa* withstands very dry conditions in the summer and wet in the winter, enjoying a sunny situation with good drainage.

Dymondia margaretae is a composite which was discovered and named after Margaret Dymond, a member of the Kirstenbosch horticultural staff in 1933. This perennial occurs naturally in the Bredasdorp district not far from the sea in low-lying regions, fairly wet in the winter and very dry in the summer.

This dwarf, very compact perennial is grown chiefly for its qualities as a ground cover and silver-grey foliage effect. The leaves are arranged in closely packed rosettes and are hard and tough. The yellow flowers are very sparsely produced in the late winter to spring. *D. margaretae* multiplies vegetatively and can be propagated by division.

Adansonia digitata is better known as the Baobab or Cream of Tartar tree. Seed collected in the region of Messina in the Northern Transvaal last year was sown in late November and within ten weeks there was a 60 per cent germination. This was, however, rather erratic as the first signs of germination were noted four weeks after sowing.

Various forms of treatment were applied prior to sowing. Some seeds were cleaned and soaked in water and then placed in boiling water. Others were just soaked. However, judging from the percentage germination of each form of treatment, there appears to be little gained from treating the seed, although those seeds which were not cleaned have to date not germinated as well as the others, indicating a more rapid germination by seed which has been cleaned.

The *Adansonia digitata*, now approximately eight feet high, in the Succulent House at Kirstenbosch was transplanted last winter with no ill effects. Unfortunately these magnificent trees will not survive outdoors in the Cape. They enjoy very warm summers, limited rainfall and dry winters.

Pest-Plants and Nature Conservation in the Winter Rainfall Region

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DEFINITIONS

The term *pest-plant* is used here to denote an aggressive introduced woody perennial which forms a permanent cover and spreads unaided into natural plant communities. Pest-plants are, therefore, a special category of *weeds*, which are defined as any plants growing spontaneously where they are not wanted. It would be better to confine the term *alien plant*, widely used of late to denote a pest-plant, to its more logical definition first used by Burtt Davy (1904) as any introduced plant which grows spontaneously in its country of adoption. When used in this sense, not all aliens become pest-plants. *Problem plants*, in contrast, would include indigenous species which, through bad veld management, have become dominant and which could, temporarily, even replace natural plant communities; however, such altered communities could be restored to the original merely by scientific veld management.

DISTRIBUTION

Despite the remark by Bews (1916) that "the vegetation of South Africa, on the whole, is resistant to invaders", the pest-plant problem has reached serious proportions in all four provinces and in diverse vegetation types. Examples are the Silver Wattle (*Acacia dealbata* Link) in Natal grassveld, Prickly Pear (*Opuntia* spp.) in the Valley Bushveld of the Eastern Cape, Blackwood (*Acacia melanoxylon* R.Br.) within openings in the Knysna forest, not to mention water-plants such as Water Hyacinth (*Eichornia crassipes* Solms) and Water Fern (*Salvinia auriculata* Schreber) in many of our subtropical rivers.

In comparison with other veld types, the fynbos vegetation of the Southern and South-Western Cape is particularly susceptible to invasion by pest-plants. The present paper is confined to a discussion of pest-plants in this area, the so-called Winter Rainfall Region of the Republic of South Africa. Details of pest-plants occurring here are given in Table I.

For at least two-and-a-half centuries after the first European settlement in South Africa there appears to have been no pest-plant problem. In the earliest reference to potential pest-plants in South African botanical literature, Bolus (1886) considered that "it is remarkable how small upon the whole is the influence exerted upon the aspect of the vegetation and how weak . . . is their aggressive power against the indigenous flora". The present infestation of nearly half-a-million morgen of wild veld with pest-plants in this Region must thus have occurred within the last 80 years or less. Most species which now threaten to oust the natural flora were introduced into this region in the nineteenth century. Trees like *Pinus pinaster* Ait., the Cluster Pine, were planted for sawtimber, Australian Myrtle (*Leptospermum laevigatum* F. von Muell.) was grown as a hedge and windbreak, while some Australian *Acacias*, Myrtle and even *Hakea* were used in combating the drift sands of the Cape Flats (Roux, 1961). Some effort is now being made to find more suitable, less dangerous species for these purposes.

Most pest-plants are hardy species, able to reproduce and thrive in the inhospitable climates of our mountains and coast. In their native lands they were doubtless kept in check by natural parasites such as insects and fungi which are absent in their new habitats. All pest-plants regenerate profusely after a veld fire, either because the heat stimulates germination (*Acacia* spp.) or because it opens serotinous fruits and cones (*Hakea* and *Pinus* spp.), thereby releasing the seed. Fire also destroys animals and birds which feed upon the seeds and young plants. The seed germinates best in bare soil and the seedlings thrive where competition is least. The consequent formation of dense stands of pest-plants where formerly only light infestations occurred, is one of the greatest present evils of veldburning.

LITERATURE

Not for 50 years after Bolus's above-quoted remark – repeated by Bews (1916) and Adamson (1929) – was any extensive spread of exotic species reported. Then Adamson (1938) mentioned that a number of exotic trees and shrubs, spreading near towns and villages, "have either altered or completely changed the character of the vegetation". As examples he gave, among others, the Australian *Acacias* which had "spread over quite large areas and become completely dominant" on parts of the Cape Flats; and the *Hakea* spp. which were behaving in a similar way on mountain slopes. In the same year, both Nel (1938) and Phillips (1938) also warned against the potential spread of *Hakea*. However, another seven years elapsed before Dr. C. L. Wicht (1945) strongly repeated these first mild warnings: "One of the greatest, if not the greatest, threats to which the Cape vegetation is exposed, is suppression through the spread of vigorous exotic plant species". Since then Wicht's warning has been repeated by many scientists and laymen, e.g. by Adamson (1952, 1953), Woods (1957, 1961), Simpson (1960), Taylor (1962, 1963), Le Roux (1966) and Oliver (1966). These writers urged that large reserves should be established where the fynbos vegetation with its unique array of species should receive special protection from pest-plants, and that research into all aspects of pest-plant control should be accelerated. The Control of Alien Vegetation Committee (1962) pleaded for the proclamation of appropriate areas as National Park Lands which would include privately owned land where all owners would be obliged to assist in the eradication of pest-plants. Except for the initiation of a research programme, the authorities have given little heed to these recommendations.

Published research on pest-plant control is scant. In the field of chemical control, the first account of tests with systemic weedicides on *Hakea* was given by Schütte (1953). Recently Jooste (1965, 1966/67) has expanded upon the possibilities in this field. Roux *et al* (1961, 1963, 1964) has dealt with the history of introduction, the physiology and the autecology of *Acacia* spp. on the Cape Flats. Hall (1961) undertook the first quantitative study of pest-plant distribution and density on a circumscribed area, and a similar study in the Cape of Good Hope Nature Reserve has recently been completed (Taylor, 1967). Further work on the distribution and life cycles of pest-plants is necessary before the authorities can formulate effective eradication plans.

REASONS FOR ERADICATION OF PEST-PLANTS

The eradication of pest-plants is expensive: can we afford it? One might rather ask whether we can afford not to! But it would be impracticable to attempt complete eradication over the whole enormous distribution area. We must be realistic and selective. In certain rural areas, for example, Rooikrans (*Acacia cyclops*) is sometimes regarded as useful: it improves the soil and may provide firewood and limited fodder for sheep and cattle. We must concentrate our efforts where the most valuable indigenous vegetation is being threatened by the most aggressive pest-plants, for example where mountain fynbos is being threatened by *Hakea*. Other veld types and other species will have to be treated on their merits. In all cases nature reserves should receive priority.

Well-developed fynbos flora is found only in the Winter Rainfall Region of South Africa and nowhere else in the world. With the expansion of agriculture and industry the extent of this unique, interesting and beautiful flora is being diminished every year, every day. Ultimately it will be found only in reserves. And it will be only in reserves that our increasing population will be able to enjoy and appreciate their natural surroundings. Today there is much talk of the need for open-air recreation in order to build a healthy nation. If for this reason alone, nature conservators have a clear duty to set aside more reserves and to maintain them free from aggressive alien plants. Such reserves, properly managed, would also be of lasting benefit to our tourist industry.

But there is another reason. Natural vegetation is the product of the habitat: the climate, microclimate, topography, soil and history. It is the epitome of the site. If we knew enough about the interaction of vegetation and site, we could infer the nature of an unknown site merely from an examination of its vegetation. In developing new areas for the service of man, this could be a rapid and reliable way of assessing the potential of the site. As an example, the great task of the International Biological Programme is to increase the food production of this earth in order to feed its fast rising population. A special section of the I.B.P. is concerned with the study of natural ecosystems to try to solve biological problems of adaptation and productivity. Such studies can only be made in undisturbed habitats. But undisturbed habitats available for study are all too few and are daily becoming fewer. Soon it will be only in reserves that this basic research will be possible. One of the tasks of the C.T. section of the I.B.P. is to ensure that more nature reserves are created and maintained for this purpose.

An increasing population needs not only more food but also more water. Our best water sources are to be found in the unimpaired plant cover of our mountains. Although experimental work is lacking in this country, it can be inferred purely from observation that when the complicated structure of our indigenous vegetation is replaced by a fast-growing, single-species *Hakea* community, the water yield of the soil may be impaired. Here, too, intensive research is needed.

Apart from the complex of plant communities which constitute the vegetation, some individual species also need protection, whether for their aesthetic and horticultural value, or for their medicinal properties, or as food for man and beast. Some species may serve to spotlight special characteristics of the site not explainable by the vegetation as a whole; these could be of great scientific importance.

Pest-plants threaten the existence not only of plant communities and of individual species but also the wild animals of the veld. Pest-plants in high densities suppress all natural vegetation, including the grasses and shrubs grazed by game. Pest-plants choke rivers, dry out vleis and some species increase the fire hazard. By suppressing the spreading tufts of Restionaceae, Cyperaceae and Gramineae, pest-plants increase the danger of soil erosion following a burn. Certainly a fire in a dense growth of wattle burns with furious intensity, pulverising the soil and incinerating game unable to escape from these thickets.

On account of their rapid rates of spread and growth in diverse communities and their ability to form closed stands which suppress indigenous vegetation, pest-plants could in time oust all the remaining fynbos vegetation. Thus, if we would keep our natural ecosystems intact, every pest-plant must be eradicated within every nature reserve at least. The extent to which this is practicable elsewhere would depend on the cost of the work which, in turn, would depend upon the eradication methods applicable to the particular plant in question.

MEANS AND METHODS

For the last two or three decades efforts at eradication have been made by State bodies such as the Department of Forestry in some of its mountain reserves, the Cape Town City

Council at Wemmershoek Dam and the Cape Divisional Council at the Cape of Good Hope Nature Reserve. As a result of more recent publicity by the Control of Alien Vegetation Committee and a few writers like Mr. Denis Woods (1957, 1961), a section of the informed public is at last aware of the dangers of pest-plants. Local eradication campaigns or "hacks" are now undertaken by private groups such as the Mountain Club of South Africa, the Sunbird Reserves Association and some residents of Betty's Bay. Where they are methodically directed to clearing limited first-priority areas these efforts are of undoubted value, but where they are sporadic and unplanned, hacking campaigns may actually do more harm than good by creating the false impression that the alien problem is being overcome. This lulls people into a false sense of optimism, in which circumstance the authorities do not feel constrained to act.

Until recently hacking has been done only by manual means with labourers using conventional axes and saws. In inaccessible places it will have to continue in this way, but elsewhere more modern equipment like power-saws, bush-cutters and even tractors are more often being used. The recent production of a light power-saw designed to cut stems up to four inches in diameter will facilitate eradication even in mountainous terrain.

Tests show that chemical eradication is possible. However, due to the high cost of chemicals and the great danger of upsetting the balance in natural ecosystems, the use of chemicals should be strictly limited. In nature reserves, where a large variety of indigenous species must be protected, "broadcast treatment" with chemical sprays should not be permitted. "Spot treatment", on the other hand, is effective where infestations are so dense that the indigenous vegetation has been severely suppressed. For example, where parent trees of *Hakea* or *Acacia* have been removed by burning, the dense seedling regeneration can be sprayed while the foliage of the young plants is still low enough to be reached with a hand spray. Chemical treatment is also suitable for the coppice shoots of species like *Acacia cyanophylla* which sprout from their base after being felled. Selective weedkillers which destroy the pest-plants without affecting the animal life, the soil micro-organisms and tuft-forming monocotyledenous Restionaceae, Cyperaceae and Gramineae, are the most suitable. Picloram and 2, 4, 5-TP are effective against *Hakea* and *Acacia* species. Treatment is described in detail by Jooste (1965, 1966/67).

Biological means, especially insects, are undoubtedly the most lasting form of pest-plant control. A classical example is the control of Prickly Pear by *Cactoblastus* and Cochineal which have restored large areas of the Eastern Province for cultivation. In the South-Western Cape, the St. John's Wort has been successfully controlled by a snout borer. Insects like these have first to be sought in the country of origin of the pest-plant. Before the insects can be released here, rigorous tests must be done to ensure that they will not attack our indigenous plants, that they are able to reproduce themselves under our conditions of soil and climate, and that they are as far as possible free from their natural parasites. These requisites cannot be fulfilled without long-term research which should, by its nature, be done by the State. A South African entomologist is at present in Australia, investigating the possible biological control of *Hakea*. Since *Hakea* belongs to the Proteaceae, the specificity of insect parasites in this case is of tremendous practical importance. Tests of the most promising insects which attack *Hakea* in Australia will soon be carried out under quarantine in South Africa.

Long-term biological control by introduced fungi is less feasible than by insects, since there are more problems connected with the location and isolation of suitable fungi in the country of origin. Besides this, fungi are, with few exceptions, less amenable to long-distance dispersal and are, therefore, less effective in controlling scattered occurrences. In dense infestations, on the other hand, fungi can cause great damage. Some pest-plants, after a long period of adaptation, are attacked by various indigenous fungi. During the last two years, for instance, a "disease", presumably caused by a local fungus, has killed off two large patches of *Hakea* in the South-Western Cape; and along the Garden Route a *Ganoderma* species has destroyed many individual bushes of *Acacia cyclops*. With protracted research such fungal parasites could probably be employed on a larger scale, either by inoculation or by spraying spores in solution. In the meantime, their spread should be encouraged by transporting infected soil or recently-killed plants to unaffected areas.

The above-mentioned means of combating pest-plants – mechanical eradication, chemical treatment and biological control – must all be combined into an effective method of control. Thorough planning is the cornerstone of successful control. In the past, time and money were wasted in sporadic efforts which failed because they were not consistently applied. Provided a practical plan of action, based on the results of research, is drawn up and strictly followed, there is still time to control the pest-plant problem, at the least within all reserved areas, including forest reserves.

As guiding principles in a plan of action, constant effort should be maintained and infestations tackled systematically in order of priority, starting with small outlying thickets and lightly infested areas. Like a military campaign, such a plan would comprise three stages: (1) Emergency measures to halt the spread of pest-plants: a *containing action*; (2) long-term measures to eradicate the dense thickets: the *main assault;* and (3) constant vigilance against re-infection: the *mopping-up operations*. Containing action should be started immediately and ceaselessly pursued in outlying infestations where the structure of the indigenous vegetation is not yet destroyed. Here all available manpower (including perhaps military and naval trainees) should be concentrated; here newly-designed equipment like portable power-saws, and modern means of transport, such as helicopters, should be employed. The main assault could well be left until more is known of the best means of attack, especially in the field of biological control. Mopping-up operations, probably using chemical sprays, should follow eradication at regular intervals, concentrating on dense stands of seedling and coppice regeneration.

The final stage, completing the analogy with a military operation, would be the maintenance of a lasting peace. There is no hope of eradicating pest-plants completely. We must try to create a permanent balance between friends and foes, maintained by biological means; hence the importance of research in this field.

Such a programme calls for co-operation in every sphere. The containing action is the task of the landowner, with financial aid from the State; and here the Forest Department, with its long experience in eradication techniques and labour management, could give valuable guidance. Research in chemical and biological control is the task of our Universities, State institutions and some commercial firms. If the problem is tackled on this grand scale the cost of the undertaking, though high, is not unrealistic when one considers both the direct and indirect benefits which will accrue.

Tests which I made in the Cape of Good Hope Nature Reserve show that the emergency measures necessary to keep the Wattle pest at bay, in this area of about 30 square miles, will cost about R2,500 per annum. In relation to the Reserve's total annual expenditure of nearly R100,000, this is a negligible amount. Total eradication of *Hakea* by mechanical means is estimated to cost at least R6 million at today's wages (if biological control is successful this cost might be very much reduced). But what is the value of this amount in relation to the ultimate benefit to our economy? Or conversely, what would be the loss, in terms of water yield, tourism and the natural beauty of our landscape, if this sum is *not* spent? As Prof. Wicht wrote over 20 years ago: "The people of South Africa would be disgraced if they did not make a supreme effort to prevent the total loss of the extraordinarily rich and beautiful Cape vegetation, which is at the same time an invaluable protective groundcover".

In this campaign, as in all country-wide projects like soil and water conservation, success can only be attained if the plan, conceived at national level, is co-ordinated and meticulously carried through in every phase. An effective organization can be achieved firstly by creating a Central Committee for Pest-Plant Control to co-ordinate all planning, action and research; secondly by forming special divisions for nature conservation within organisations such as the Forest Department which administer large areas of natural vegetation; and thirdly by appointing nature conservators with special knowledge of veld management, at individual reserves. Until such an organization is formed and its various components dove-tailed and streamlined into a smoothly-running whole, pest-plant eradication will remain a costly, hit-and-miss affair which will not touch the heart of the problem.

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Table I

MAIN PEST-PLANT SPECIES OF THE WINTER RAINFALL REGION

For more details see "The Green Cancers in South Africa" published by the Control of Alien Vegetation Committee, Kirstenbosch (1959).

Species	*Details*
Acacia cyanophylla Lindl. (Port Jackson Willow)	Small tree about 15 ft. high. Occurs together with Rooikrans but prefers moister soil and is more frequent near Cape Town.
Acacia cyclops A. Cunn. (Rooikrans)	Large shrub up to 10 or 12 ft. high. Widespread on sandy soil along the south coast from Cape Town to Port Elizabeth and up the west coast to about Lambert's Bay. Sometimes used for firewood and animal feed but becomes a weed on sweet grazing veld. Infestation (together with Port Jackson) estimated at *300,000 morgen.*
Acacia longifolia Willd. (Long leafed Acacia)	Shrub or small tree found mainly in kloofs in the Cape Peninsula but spreading also to drier slopes.
Acacia mearnsii De Wild.* (Black Wattle)	Tree, forming dense stands in river valleys of the mountains and coast. Great threat to river life and streambank vegetation.
Acacia melanoxylon R. Br.* (Blackwood)	Large timber tree which spreads along rivers and forest margins in the Knysna forest area.
Hakea gibbosa (Sm.) Cav. (Hairy Needlebush)	Woody shrub thus far confined to the Cape Peninsula and Caledon District but of great potential danger.
Hakea suaveolens R. Br. (Sweet Hakea)	Large shrub thus far confined to the Cape Peninsula, Villiersdorp and Port Elizabeth Districts.
Hakea tenuifolia (Salisb.) Domin (= *H. acicularis* (Vent.) R. Br.) (Silky Hakea or Needlebush)	Shrub about 8 ft. high. Very extensive infestations in the mountains of the South-Western and Southern Cape. Total infestation of all three *Hakea* species conservatively estimated at *130,000 morgen* and still spreading with alarming rapidity.
Leptospermum laevigatum F. von Muell. (Australian Myrtle)	Large shrub formerly planted as a hedge. Now spreading in sandy soil on the Cape Peninsula and along the south coast to beyond Hermanus with small inland infestations in some districts such as Fransch Hoek, Villiersdorp and Worcester. Potentially one of the most dangerous of the pest-plants.
Pinus halepensis Mill. (Aleppo Pine)	Limited but dangerous infestations on mountain slopes, especially between Simon's Town and Miller's Point.
Pinus pinaster Ait.* (Cluster Pine)	An escape from timber plantations which is now widespread in mountain veld throughout the region.

* When grown under conditions of proper management and control, these species are of great economic value.

PUBLICATIONS

Dr. A. R. A. Noel, of the Department of Botany, University of Natal, Pietermaritzburg, Natal. enquires if any members are interested in the following Publications for disposal and Publications wanted:

Surplus copies of the following available for distribution:
Medley Wood – Natal Plants: vol. 2 part 4
vol. 4 parts 2, 3 and 4
vol. 5 parts 1, 2, 3 and 4
vol. 6 part 1.

All are in paper covers as issued and are somewhat foxed. They are available at 50 cents each.
Medley Wood – Handbook to the Flora of Natal, 1907. Mint copies offered at R3.00 each.
Bews – Life as a Whole. Mint copies offered at R1.50 each.
Journal of South African Botany: vol. 1 parts 1, 2, 3 and 4
vol. 2 parts 1, 2, 3 and 4
vol. 3 part 1
vol. 4 part 3
vol. 5 part 2
vol. 17 part 3

Offers for sale or exchange invited.

We are urgently in need of the following to complete sets:
Journal of the Botanical Society of South Africa: part 3 1917
part 12 1926
Journal of South African Botany: vol. 5 part 1
vol. 7 part 2
vol. 8 parts 1 and
vol. 12 part 1
vol. 15 part 4
vol. 16 part 1
vol. 17 parts 1, 2, 3 and 4
vol. 18 parts 1, 2, 3 and 4
vol. 19 parts 1, 2, 3 and 4
vol. 20 parts 2, 3, and 4

Enquiries respecting any of the above items should be addressed direct to Dr. A. R. A. Noel.

An American Experimenter Reports

Philip O. Buch
Flemington, New Jersey, U.S.A.

For over 35 years I have been growing, or attempting to grow, Gladiolus species from seeds acquired by purchase, exchange, or gift, with varying degrees of success in north-eastern United States. My original intent was to gather as great a collection of this genus as possible, to hybridize and perhaps develop a fragrant strain that could be grown here in our summer gardens. My notes indicate that I have sown seeds of 35 "Cape" species, 22 named and 8 unnamed African species, 10 named and 8 unknown Eurasian species, and numerous true hybrids. During these years I have tried some of these species again and again.

Taking first the "Cape" species: Not having a greenhouse, seeds were sown in wooden flats placed in a basement window, where the temperature hovered around 65 degrees F. Generally, the seeds sprouted no matter when they were sown, but at times I believe I received seed that was no longer viable. (I never keep seed longer than three years.) The seedlings occasionally reached 3 or 4 inches, then dried off. The flats were kept dry until autumn (Sept.—Oct. here) when water was applied. In some instances the seedling corms grew again but most simply disappeared. None ever reached the third year.

The literature I had avidly perused for years indicated almost insurmountable difficulties in growing these lovely flowers here without a cool greenhouse. But I was persistent. Each year I had hoped that one or more of these wildings would forget its eons of environment and suddenly change its habits. No matter what I tried, no matter what the medium in which the seeds were sown, they just would not co-operate. The fragrance of many of the "Cape" species has never thrilled me except through a Homoglad hybrid I received from the U.S. Department of Agriculture for trial. This hybrid (*G. concolor x Homoglossum watsonium*) had a wonderful, strong carnation scent at dusk, and proved winter hardy for a number of years, but gradually disappeared. I tried holding it for spring (April—May) planting, but could not. It, like the "Cape" species, insisted on sprouting in our autumn when potted. Many crosses were made using this Homoglad hybrid, but the scent was not passed along to the progeny. This had previously been reported by other experimenters concerning *G. liliaceus* (*grandis*), *G. tristis*, and *G. concolor* types. This regrettable situation could be solved if hybridization between other fragrant "Cape" species and those from eastern Africa could be accomplished by a South African plant breeder, even an amateur.

As for other African species: During these years I had made contacts with people in the many African countries where Gladiolus are indigenous. Seeds were obtained, mainly from Natal, Rhodesia, Nigeria, Transvaal, Swaziland and the Belgian Congo. My success with the following species (some names are being changed), *G. cooperii*, *G. dracocephalus*, *G. hookerii*, *G. primulinus*, *G. psittacinus* and *G. quartinianus*, indicates that in order to grow and bloom outdoors in our summer (July-Aug.-Sept.) in this area of the Northern Hemisphere, Gladiolus species must come from east of the 25th meridian in Africa. Of the unknown African species, one is a pink-tipped light yellow from the vicinity of Inyanga, Rhodesia, and has proven a rapid multiplier, even in dry years. Another is striated pink on a white ground, with a pale yellow blotch, from Swaziland, and is also doing very well. If any member can identify these last two from such meager descriptions, I would appreciate the information.

The *G. quartinianus* mentioned above came from the mountains along the west coast of Lake Kivu through a Belgian experiment station worker. I do not think it is indigenous to South Africa. Hybridization has been accomplished amongst the successfully grown African species, also between the latter and the European hybrids, Harlemensis, Herald and Homoglad. The recently introduced New Zealand hybrid, the fragrant Gladanthera "Lucky Star" was successfully crossed with the African species and with many of my own hybrids. The seedlings are now (1969) entering their third year and I expect at least some fragrant cultivars will be making their appearance.

Most Eurasian species are, of course, winter hardy here, but of doubtful interest to South African growers. There is not too great a difference between the few species I grow, except for size and slight colour variations, and all have a lense-shaped white line on the lower segments, excepting a white form of *G. segetum*. Garden hybridization has been difficult because they bloom earlier than the African species.

The climate here is rather hard, both winter and summer. Our winter temperatures frequently drop to minus 5 degrees F. (minus 17 degrees C.) or lower, and in summer it can reach 100 degrees F. (30 degrees C.) in the shade. Annual rainfall normally reaches 45 inches, rather well distributed throughout the year. We have had dry years, too. The soil where I live is a heavy clay loam underlaid with shale, and miserable to work. Sand and peat moss must be added to make it friable, with organic fertilization. I dig my corms in October, let them dry for a few weeks in the basement, then clean and store in paper bags until planting time (May) comes.

If any member living east of the 25th meridian in South Africa can supply a few seeds of any Gladiolus species I have not mentioned above I should be delighted to send in exchange some Hemerocallis seeds of my own development. My full address is RD 1, Broad Acres, Flemington, New Jersey, 08822, U.S.A.

The Botanical Society of South Africa

ANNUAL REPORT

FOR THE YEAR ENDING 31 DECEMBER, 1968

The Council of the Botanical Society of South Africa has pleasure in presenting its fifty-fifth Annual Report for the year ending 31st December, 1968.

MEMBERSHIP

A welcome was extended to 671 new members during this year, being: 26 Life, 10 Corporate, 94 Family, 518 Ordinary, 23 Associate. Deaths and resignations offset this number by 314, while 138 names were removed from the roll, being two years in arrears with their subscriptions. The net gain in membership was, therefore, 219.

FINANCIAL

Subscriptions received totalled: R20,671.03, which includes: Patrons: R250.25, Corporate: R1,115.15, Family: R4,834.23, Ordinary: R13,352.49, Associate: R1,118.91. Donations received totalled: R1,409.53, Interest on Investments: R1,420.61. Expenditure items totalled R11,623.70 which includes, expenditure of Branches, depreciation of equipment, etc., leaving a surplus for the year of R12,222.10, which constitutes the record Grant to the National Botanic Gardens for 1968. It should be noted that two Journals were paid for during this year, amounting to R3,393.27 (1967 Journal: R1,496.63, 1968 Journal: R1,614.00, plus translation, inserts, etc., R282.64). Despite this heavy expenditure of printing two journals in the same financial year, it has been a most successful year.

MEETINGS OF THE SOCIETY

Saturday, 6th January, 3 p.m.—The Lawn, Kirstenbosch. Our President, Mr. D. R. D'Ewes, welcomed all members present.

Tuesday, 6th February, 8.15 p.m.—Botany Department Lecture Hall, University of Cape Town. Mr. H. C. Taylor gave a thought-provoking lecture on "Aliens at the Cape of Good Hope Nature Reserve". This was followed by a film "Shadows of Death", shown by Mr. S. W. Chater.

Tuesday, 12th March, 8.15 p.m.—Botany Department Lecture Hall, University of Cape Town. After the business of the Annual General Meeting, the large audience was delighted by an interesting account given on "Indigenous Plants in One Man's Garden" by Mr. D. R. D'Ewes. Mr. D'Ewes illustrated how effective it can be when slides are shown of plants in various positions, that is, close-ups alternated with pictures of the whole plant.

Saturday, 23rd March, 3 p.m.—Annual Visit to Betty's Bay. Approximately 100 members were transported in two buses on this visit to the Harold Porter Botanic Garden. Prof. H. B. Rycroft and Mrs. Enid du Plessis accompanied the two groups, adding much interest to the visit by identifying the vegetation en route. A pause was made for morning tea at

Gordon's Bay. Apart from those travelling by bus, a good number travelled in their own cars and visited the Garden during the afternoon.

Tuesday, 2nd April, 8.15 p.m.—Botany Department Lecture Hall, University of Cape Town. "Chapparal and semi-desert Vegetation in Southern California" was the title of Prof. E. A. Schelpe's informative lecture.

Tuesday, 7th May, 8.15 p.m.—Botany Department Lecture Hall, University of Cape Town. Mr. W. J. Tijmens gave a lecture of unusual interest, entitled "Plants, People and Environments—with special reference to the Brooklyn Botanical Gardens, New York".

Tuesday, 30th July, 8.15 p.m.—The Athenaeum, Newlands. Mr. J. Marais, Curator of the National Botanic Gardens, Kirstenbosch, gave an account of his visit to "Botanic and other gardens in Europe" to a large, enthusiastic audience.

Tuesday, 6th August, 8.15 p.m.—The Athenaeum, Newlands. "Stapeliae" illustrated with colour slides, was the subject of an interesting lecture given by Mr. van Breda, Officer-in-Charge, Worcester Veld Reserve.

Tuesday, 10th September, 8.15 p.m.—Claremont Civic Centre. Dr. A. C. Myburgh, Head Entomology Section, Fruit and Food Research Institute, Stellenbosch, together with a team from this Department, gave a most enlightening symposium on Proteas. Approximately 30 members of the New York Botanic Garden attended this lecture of unusual interest.

Saturday and Sunday, 14th and 15th September—Wild Flower Show, details of which are given in the Wild Flowers Protection Section Report.

Saturday, 28th September.—Annual Visit to Karoo Botanic Garden, Worcester. We again hired two buses for this visit, when the Mayor of Worcester addressed a well-attended gathering.

Saturday, 5th October, 3 p.m.—Annual Spring Gathering on the Lawn, Kirstenbosch. An interesting feature which delighted members was their being transported in a tractor and other Kirstenbosch vehicles to see the newly completed reservoir near the Director's house.

Tuesday, 5th November, 8.15 p.m. Botany Department Lecture Hall, University of Cape Town. Prof. H. B. Rycroft addressed members on the developments and plans of the National Botanic Gardens of S.A.

Tuesday, 3rd December, 8.15 p.m.—The Athenaeum, Newlands. Mr. J. Rourke gave a large, appreciative audience a lecture on "Leucospermum in S.A.—300 years of progress", which was of outstanding interest.

Saturday, 9th December, 3 p.m.—An afternoon excursion was made to Silvermine Nature Reserve in two hired buses. Prof. H. B. Rycroft and Mrs. Enid du Plessis accompanied us on this interesting and enjoyable excursion at the close of the year.

HARRY BOLUS AWARD

The sub-committee appointed by Council of the Botanical Society of S.A. recommended that the Harry Bolus Medal be awarded to Mr. L. C. Leach of Nelspruit, Transvaal, for his outstanding contributions to the science of Botany. It was decided that the presentation of this award be made at Mr. Leach's lecture in January.

OFFICE BEARERS 1968

The following office bearers were elected to serve on the Botanical Society's Council:

President: Mr. D. R. D'Ewes.
Vice-Presidents: Prof. R. H. Compton,
Prof. H. B. Rycroft,
Dr. Margaret R. Levyns.
Council: Mr. M. G. Botha,
Prof. W. P. U. Jackson,
Prof. P. G. Jordaan,
Mr. G. J. E. Matthaei,
Mr. J. Minnitt,
Mrs. E. Powrie,
Prof. E. A. Schelpe,
Mr. P. G. Watson.
Mr. L. J. Hill,
Miss M. E. Johns,
Prof. W. J. Lutjeharms,
Mr. W. J. Middelmann,
Miss Q. V. Paine,
Mr. F. C. Sawkins,
Prof. F. L. Warren,

Mr. M. G. Botha was re-elected Chairman at the first meeting of Council.

JOURNAL

Owing to various reasons, printing of the 1967 Journal was considerably delayed. This was published in June and Part 54, 1968 was despatched in September. It is, however, planned that future issues should be published by the end of March in each year, in order to have the reports, etc., brought more up to date.

DISPLAY OF SPECIMEN VASES

A special display window has been erected in the Society's office, where specimens of various plants in flower are displayed. These vases are changed each week. This feature is of value both from an educational and interesting point of view.

THANKS

We thank our President, Vice-Presidents, members of Council and all who have helped to promote the interests of our Society during this year. We also express our gratitude to the Director and staff of the National Botanic Gardens for their friendly co-operation and help. Our special thanks are due to Prof. H. B. Rycroft and Mrs. Enid du Plessis for their willingness to accompany us on our bus excursions which have become a popular feature of the Society. We express our gratitude to Miss M. E. Johns and Mr. F. C. Sawkins for their kind interest and help throughout the year. The Chairman records his thanks to Miss J. Harvey and her staff for their yeoman service. The Daily Press and S.A. Broadcasting Corporation are also thanked for their help.

Mr. M. G. Botha, *Chairman of Council*
(Miss) J. Harvey, *Secretary/Treasurer.*

Wild Flowers Protection Section Committee

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER, 1968

INCOME FOR THE YEAR

Subscriptions received totalled R1,758.61, Interest received on Investments: R325.59, Provincial Grant: R300.00; Donations received: R57.00, Profit on Wild Flower Show: R50.08. Expenditure items totalled: R1,376.38, plus 5 per cent subscriptions received credited to General Administration Expenses: R87.93 and depreciation of equipment at 10 per cent p.a.: R98.00.

WILD FLOWER SHOW 14—15 SEPTEMBER

We were again most fortunate in being favoured with a beautiful day. Our Show was officially opened by Mr. J. C. Heunis, M.E.C. An innovation this year was having the opening address on the Lawn, Kirstenbosch, instead of on the Lecture Hall Verandah. This change proved a most successful one and enabled us to utilize the extra space for members' exhibits. These exhibits were displayed to far greater advantage as a result of this change. In addition, the Assistant Curator, Mr. J. Winter and other senior horticulturists arranged a most attractive landscape exhibit in the centre of the hall, which enhanced the general effect and added considerable interest to the Show. We are indeed grateful to all who enthusiastically helped us and to members who entered exhibits, without whose support our Show would not have been a success. The weather conditions on the Sunday were not as favourable as on the Saturday, however, and the attendance was considerably affected as a result of this.

WILD FLOWER PROTECTION

Reports were received by the Secretary during the year that Proteas and Ericas were being hawked in the southern suburbs. This was duly reported to the Department of Nature Conservation who kept a close vigil on the particular area. A senior Nature Conservation Officer reported shortly afterwards that the culprit had been found and a charge had been made. Every co-operation was also received from the Department of Nature Conservation where reports were made of the sale of *Staavia dodii* and *Mimetes hottentotica.* Concern was expressed at one of the meetings of this section about the exploitation of succulents in the Kneersvlakte area. It was reported that efforts were being made by an individual to have this area declared a nature reserve.

PROPOSED FREEWAY THROUGH KOGELBERG RESERVE

This matter has been discussed repeatedly at our meetings during this year. The Chairman, in his capacity as Director of the National Botanic Gardens and Vice-President of our Society, has approached the Minister of Transport and the Secretary for Forestry in an earnest attempt to have this project abandoned.

MARINE PLANT LIFE

The Secretary was instructed to enquire what effects the oil pollution had had upon marine plant life. A botanist at the University of Cape Town had indicated that it had not been the oil itself, but the detergent used to combat the effects of the oil which had proved harmful to marine life.

ADVISORY COMMITTEE MEETING FOR NATURE CONSERVATION

The Chairman, who usually represents the Society at these conferences, was unable to be present at this one, which was held in Knysna. It was agreed, however, that the Secretary should be present there. The Wild Flowers Protection Section Committee recommended that mention be made at this Conference regarding nature reserves. It was felt that a nature reserve was quite distinct from a botanic garden. A nature reserve should consist of certain natural features and flora which occurred in the surrounding area. The primary object of a reserve should be to protect the natural vegetation as this existed in Nature. It was further suggested that plantings should be made in a specially defined section and should be confined to plants which were indigenous to that area. These points were accordingly mentioned at the Conference.

WILD FLOWER PROTECTION ORDINANCE — PROPOSED AMENDMENT TO SIXTH SCHEDULE

Proposed amendments, whereby all indigenous plants would be protected, were discussed at this meeting and it was agreed that recommendations be made for consideration at the next meeting.

BURSARY

Arising from expressions of concern by members of the committee about the possible harmful effects of drastic picking of certain indigenous flowers for country shows, a valuable suggestion was made that this Section should offer a bursary to a student or a post-graduate for the study of such effects. A sub-committee was accordingly appointed and it was decided that a scholarship be offered to the value of R500 for research in plant ecology. All universities in the Republic have been circularised about this scholarship.

PUBLICATION

Repeated mention has been made at committee meetings about the need for more education on conservation and preservation of indigenous plants by the general public. The suggestion that a regular publication be made through this Section, with particular emphasis on lesser-known indigenous plants, was approved. It is hoped that the first issue of this journal will be printed during the first half of 1969.

ALIEN VEGETATION

Concern has been expressed consistently regarding the increase of alien plants in various parts of the Western Cape. It has been decided to recommence the hacks which became a regular feature of the former C.A.V. Committee (now incorporated in this Section). It was felt that the impact on public opinion was the most important factor in organising these hacks.

OFFICE BEARERS

The following members were elected to this Committee:

Mrs. Enid du Plessis,
Miss M. E. Johns,
Mr. G. J. E. Matthaei,
Prof. H. B. Rycroft,
Mr. F. Watermeyer,
Mr. D. Heesom,
Mrs. A. MacKenzie,
Mr. W. J. Middelmann,
Mr. F. C. Sawkins,
Mr. D. H. Woods.

Prof. H. B. Rycroft was re-elected Chairman at the first meeting of this Committee.

THANKS

We are indebted to all who have helped us, especially in connection with our Wild Flower Show, to the Assistant Curator and horticulturists who arranged the landscape exhibit, the Curator and staff of the Compton Herbarium, who were responsible for naming the exhibits and to all the judges and stewards. The Cape Provincial Administration is also thanked for their co-operation and help, especially in arranging an exhibit depicting conservation posters and publications, which attracted much attention and added considerable interest to our Show.

H. B. RYCROFT, *Chairman*
(Miss) J. HARVEY, *Secretary/Treasurer.*

Die Botaniese Vereniging van Suid-Afrika— Harrismith-Tak

VOORSITSTERSREDE
GELEWER OP 31 OKTOBER 1968
JAAR 1967–1968 (NOV. TOT OKT.)

Deur die jare heen word 'n mens al hoe meer bewus daarvan dat elke vereniging, groot of klein, 'n kern van staatmakers opbou. Op hierdie staatmakers kan gereken word om die betrokke vereniging op hul skouers te dra, veelvuldige verpligtinge en moeilike omstandighede ten spyt.

So is dit ook met hierdie vereniging van ons. Gedurende sy vier jaar van sy bestaan het 'n groep getroue lede elke funksie en vergadering bygewoon en die fonds insamelings ondersteun. My eerste dankbetuiging gaan dus aan hulle vir volgehoue belangstelling en daadwerklike ondersteuning.

I wish to thank every member of the executive who attended the three committee meetings, the various functions and outings and who served the Society so well. A particular word of thanks to Mr. van der Zeyde, our Secretary, who has matters well in hand. He organized no less than four films and slide shows, two outings and two street-sales. Notices were sent out, not only to members but to many interested persons. Mrs. de Beer seems to be assistant Secretary in that she can be relied on to organize refreshments at functions.

Financial matters are at last under control in the able hands of Miss Flo Hawkins. Sincere thanks for her part in lightening the load. Two street-sales were held — on March 23rd and on October 11th. Contributions and donations are much appreciated. The local fund is built up with a view to making donations in one form or another to the Botanic Gardens. For instance, indigenous trees and shrubs were bought by the Society and planted in the Gardens on April 2nd as part of the "Festival of the Soil". Further, the proceeds of the latest street-sale will be used to buy benches to be placed at strategic points in the Gardens. As a matter of interest, each of the street-sales has brought in just over R40.00.

Skyfie- en Rolprentvertonings gepaard met praatjies, was deurgaans puik. Ons dink terug aan 'n uiters interessante aand saam met mnr. Van Ee, Kurator van die Bloemfonteinse dieretuin en mnr. Oberholtzer, Assistent-Hoof van die Nasionale Museum, ook te Bloemfontein. Dan weer die besoek van mnr. R. Labuschagne, Assistent-Direkteur van die Parkeraad, wat so boeiend kon vertel en sulke pragtige skyfies gewys het. Die korrellasie tussen plante en diere is oortuigend aan ons tuisgebring. Inheemse plante en Botaniese Tuine het aan die beurt gekom tydens die besoeke van mnr. Huizenga, Parke Superintendent te Virginia, mnr. Feinauer, Kurator van die nuutgestigte Botaniese Tuin te Bloemfontein en prof. Rycroft wat ons met elke besoek meer bewus maak van ons land se Planteweelde. Aan hierdie persone en aan almal wat hulle bygestaan het, ons hartlike waardering en dank. Dankie ook aan die lokale lede wat deur hul subskripsies aan die Botaniese Vereniging, die hand van ons eie tak sterk en tegelykertyd ook 'n bydrae maak tot die bewaaring en waardering van ons snelverdwynende inheemse plantegroei.

Mej. Jean Harvey, Sekretaresse van die sentrale Vereniging was onlangs op besoek in Harrismith en het 'n komiteevergadering bygewoon. Sy dra ons belange op die hart en ons waardeer die twee dae verloftyd wat sy aan ons afgestaan het.

Wat die ontwikkeling van die Botaniese Tuine betref kan ek meld dat prof. Rycroft Harrismith verskeie kere besoek het. Gedurende Augustus was hy vergesel van mnr. Marais, Kurator te Kirstenbosch en sy assistent, mnr. Winter, mnr. Stayner, Kurator van Worcester Botaniese Tuine en mev. du Plessis, almal bemoeid met die beplanning van lokale Tuine.

Lede wat die Tuine gereeld besoek sal tred hou met wat daar aangaan. Ongelukkig werk die Kurator, mnr. van der Zeyde, onder ongehoorde moeilike omstandighede, aangesien dit maar 15 duim in 18 maande gereën het, in plaas van 'n verwagte 27 duim per jaar.

Ek wil 'n beroep doen op lede om nuwe lede te werf, om vriende saam te bring na funksies en veral om deel te neem aan uitstappies. Kan dit wees dat bewoners van plattelandse dorpies bang groot word vir stap in die veld en vir bergklim?

Is ons soegenaamde liefde vir die natuur beperk tot die uitsig deur 'n motorvenster? Sal ons nie die tipiese Suid-Afrikaanse Piekniek in ere herstel nie, heeldag buite rondstap en die veld verken, plante en bome en struike, voëls en insekte leer ken? Veel wilde diere sal ons nie meer teenkom nie. Dan eers mag ons daarop roem dat ons natuurliefhebbers is.

Inhabitants of this town of Harrismith can still live close to nature. Within reach there are undefiled stretches of veld and hill, mountain and river. The Botanic Garden will bring a wealth of flowering plants to our very door. Let it not be said of us that we have become like boxed-in city dwellers though we live in a country town in full view of Platberg.

M. L. Jacobsz

The Botanical Society of South Africa Transvaal Branch

CHAIRMAN'S ANNUAL REPORT
DELIVERED TO ANNUAL GENERAL MEETING
ON 26TH NOVEMBER, 1968

The establishment of the Transvaal Branch of the Botanical Society of South Africa at the beginning of 1965 was a matter of great pleasure to the numerous enthusiastic members who live in and around Johannesburg. We include all those members in the Transvaal who are able to attend our meetings from time to time; but, primarily, this branch has catered for the needs of members residing in Johannesburg, Pretoria, the Reef, Vereeniging and Sasolburg. It may interest you to know that there are no less than 1,425 members on our waiting list, with only about 250 of these in the country districts, the majority being in the Witwatersrand area.

It may be seen, therefore, that this is a large and important group that has well repaid the idea of its formation with headquarters in Johannesburg. Far from having taken members from other societies with similar interests, the Transvaal Branch has implemented and strengthened their interests, welcoming their members to our meetings and being equally welcomed to our fellow nature-lovers' societies.

We have been fortunate in obtaining lecturers of the highest calibre and greatest interest. Although we have no special headquarters, we have established the Dorothy Susskind Auditorium as our favourite venue. In one way, however, there is something missing and that is an outdoor garden where we could meet and where we could show visitors the beauty of our indigenous flora.

The world flocks to Kirstenbosch and we are happy about this and proud of our beautiful National Botanic Gardens. Alas, how few of us have the opportunity of visiting it regularly or at the best time of the year! In Johannesburg, we wild flower enthusiasts can boast of the Wilds, the municipally-owned wild flower garden that is so pleasant and centrally situated. Yet it cannot be enjoyed by all visitors because of its essentially hilly terrain. Horticulturally-minded visitors to Johannesburg have been drawn to visit the Botanical Gardens at Brummeria, and these are a great attraction, but what is wanted is a Botanical Garden for Johannesburg with a great number of indigenous plants in it, if not a complete section, showing how to arrange our lovely flowers for best effect, apart from other more scientific attractions.

Our Municipality is in favour of a Botanical Garden for Johannesburg and we are anxiously awaiting their findings about ground available and other details, so that we can participate in this effort to provide us with an amenity that we lack most seriously. The Transvaal Branch of the Botanical Society would surely find this institute an outlet for furthering its aims.

We were glad that all our meetings this year took place at the Dorothy Susskind Auditorium. It is not always possible to obtain this popular lecture theatre. All were well attended.

Our first lecture of 1968 took place on 27th February and our speaker was Mr. J. Lavranos, who talked on the Middle East Command Expedition to Socotra Island in the Indian Ocean. What a truly enjoyable evening it was – a combination of a fascinating travel talk with magnificent photography and a feast of beautiful as well as curious plants.

The second meeting, on 26th March, was honoured by Mrs. Aurial Batten, who travelled from East London to show us some of her original paintings, and talk on the book "The Wild Flowers of the Eastern Cape", which she wrote and illustrated in collaboration with H. Bokelmann. Our members were enthralled with her painstaking and beautiful work.

Our third lecture was given on 28th May by Miss Sheila Thompson, who commented on the slides taken and shown by Mrs. Doreen Jeffes while they both visited the wild flower areas of the S.W. Cape and Namaqualand in the previous spring. The photography was outstandingly beautiful, the commentary most erudite and our members paid these two fellow members the compliment of filling the large hall to overflowing.

On the 6th August, our fourth lecture was given by Dr. L. Vogelpoel, from Cape Town, who showed us an outstanding collection of slides on the genus *Erica*. He is a keen mountaineer and we had the thrill of seeing marvellous Ericas growing in inaccessible places where few of us would ever dare to climb even if we had the energy. Again, our members had a memorable evening.

And now, tonight, we have no less a person than the Director of Parks and Recreation in Pretoria, Mr. J. E. Repton, who has come to grace our annual general meeting. His subject is the Vegetation of the Rietvlei Reserve and we are fortunate indeed to hear of such unusual subjects and unusual places through membership of our society.

Our saddest news this year was the tragic death of our colleague, Mr. Lecolle-Brown, whose family remembered the society in spite of their grief. They asked for, and we received, donations to the Botanical Society in lieu of wreaths. Our deepest sympathy goes to Mrs. Brown and her son.

There were several recent tours from visiting parties of Americans who came to South Africa in order to see our wild flowers. Professor Rycroft conducted the New York Botanical Garden tour and I had the pleasure of meeting them in Johannesburg and, later, conducting a few of the members around the gardens of Johannesburg. This I also did for the Brooklyn Botanic Garden tour. I feel most strongly that a few of our members should volunteer their names to our secretary so that they can give time to visitors who are interested in indigenous flowers and Johannesburg's gardens. Personal contacts and guidance make all the difference to visitors and will give them the best possible impression of what we have to offer. I feel that it should be one of our important functions to build up this public relations liaison between our wild flowers and our visiting nature-lovers.

I should like to thank my committee for their enthusiastic work behind the scenes and for all your support in the past year, as well as for coming here tonight to make our annual general meeting a success.

Sima Eliovson

THE BOTANICAL SOCIETY

BALANCE SHEET AS AT

	R c	R c
Life Membership Fund		10,571.02
Balance 1/1/1968	11,022.56	
Add: Amounts received	1,361.04	
Bequest — Estate late Miss M. A. Little	600.00	
	12,983.60	
Less: Expenditure incurred re office equipment, furniture and fittings, etc.	2,412.58	
Reserve Fund		800.00
Mrs. W. Hall Memorial Fund		191.75
National Botanical Gardens		12,222.10
Carried forward		R23,784.87

OF SOUTH AFRICA

31st DECEMBER, 1968

		R c	R c
Investments			17,518.30
Cape of Good Hope Savings Bank		847.98	
Savings Account No. 52773			
Post Office Savings Bank		241.67	
Savings Account No. 5803			
United Building Society		387.25	
Savings Account No. 536			
Trust Bank of Africa Limited		3,082.50	
Fixed Deposit No. 6583 with interest accrued	2,055.00		
Fixed Deposit No. 13769 with interest accrued	1,027.50		
Standard Bank of S.A. Limited		936.33	
Savings Account			
Saambou		4,632.57	
Indefinite Period paid-up Shares	4,000.00		
Savings Account	632.57		
Electricity Supply Commission		6,790.00	
R7,000 6⅞% Local Registered Stock 1992			
Garlick Limited		600.00	
300 5% Cumulative Preference Shares of R2 each (*See Note* 2)			
Office Equipment			65.00
Adding Machine		43.00	
Balance 1/1/1968	48.00		
Less: Depreciation written off	5.00		
Typewriter		22.00	
Balance 1/1/1968	24.30		
Less: Depreciation written off	2.30		
Current Assets			6,201.57
Current Account with Standard Bank of S.A. Limited		3,361.53	
Cash on Hand		46.75	
Wild Flower Protection Section		3,042.29	
		6,450.57	
Less: Liabilities		249.00	
		Carried forward	R23,784.87

THE BOTANICAL SOCIETY

BALANCE SHEET AS AT

			R c
		Brought forward	23,784.87
Wild Flower Protection Section			4,513.59
Balance 1/1/1968		3,584.62	
Ordinary Subscriptions received during 1968		1,758.61	
Interest received during 1968		325.59	
Grant		300.00	
Donations		57.00	
Profit on Wild Flower Show		50.08	
		6,075.90	
Less:		1,562.31	
5% of 1968 Subscriptions credited to General Administration Expenses	87.93		
Salaries	720.56		
Stationery, Printing, Postage, Advertising, Travelling Expenses, etc.	425.25		
Depreciation of Equipment at 10% p.a.	98.00		
Printing of Brochures *less* Sales	230.57		
Book Fund Trust Section			4,183.39
Balance 1/1/1968		4,562.34	
Add: Stock of Books 31/12/1968		3,571.89	
Sundry Income		345.00	
		8,479.23	
Less: Audit Fee	21.00		
Stock of Books 1/1/1968	3,839.84		
Transfer to National Botanical Gardens	435.00		
		4,295.84	
			R32,481.85

NOTES: 1. An amount of R495.44 was transferred from the Society's Trust Bank Savings Account to a Fixed Deposit in the name of the Wild Flowers Protection Section.

2. The 300 5% Cumulative Preference Shares in Garlick Limited have not, as yet, been registered in the name of the Society.

Referred to in our Report of even date.

Signed R. M. JOUBERT & CO.
Chartered Accountants (S.A.), *Auditors*

CAPE TOWN
4th March, 1969.

OF SOUTH AFRICA

31st DECEMBER, 1968 (*cont.*)

			R c
		Brought forward	23,784.87
Wild Flowers Protection Section			4,513.59
Investments		6,652.94	
Trust Bank of Africa Ltd.			
Fixed Deposit No. 9823 with interest accrued	963.24		
Fixed Deposit No. 11444 with interest accrued	515.00		
Saambou	4,093.38		
Fixed Deposit No. 10054			
Standard Bank of S.A. Ltd.	1,081.32		
Savings Account			
Equipment		882.00	
Balance 1/1/1968	980.00		
Less: Depreciation written off	98.00		
Cash on Hand		20.94	
Less: Amount due to General Account		7,555·88	
		3,042.29	
Book Fund Trust Section			4,183.39
Stock of Books on Hand		3,571.89	
per Treasurer's Valuation			
Post Office Savings Bank		163.37	
Savings Account No. 5660			
Cash		448.13	
Current Account at Standard Bank of S.A. Limited	52.33		
On Hand	22.80		
Juta & Company Limited	345.00		
Amount due by General Account	49.00		
	469.13		
Less: Liabilities	21.00		
			R32,481.85

THE BOTANICAL SOCIETY OF SOUTH AFRICA

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1968

	R c
General Administration Expenses	1,344.80
Audit Fees, 1968	200.00
Salaries	3,426.29
Contributions to Pension Fund	177.00
Bank Charges	136.00
Stationery and Printing	5,677.31
Expenses, Transvaal and Harrismith Branches	485.00
Depreciation — Equipment	7.30
Loss on Sale of Addressograph	170.00
Surplus for the year	12,222.10
	R23,845.80

	R c	R c
Subscriptions		20,420.78
Family Members	4,834.23	
Ordinary Members	13,352.49	
Associate Members	1,118.91	
Corporate Members	1,115.15	
Contributions by Patrons		250.25
Donations		1,409.53
Interest on Investments		1,420.61
Journal Advertisements Recovered		329.63
Preference Share Dividends		15.00
		R23,845.80

We have to report that we have examined the attached Balance Sheet as at 31st December, 1968, with the books and vouchers of the Society, and have obtained all the information and explanations we have required. We are satisfied that the securities are in existence, and that the Society has kept proper books and accounts.

We are of opinion that such Balance Sheet is properly drawn up so as to exhibit a true and fair view of the state of the Society's affairs at the date thereof, according to the best of our knowledge and the explanations given to us, and as shown by the books of the Society.

Signed R. M. JOUBERT & CO.
Chartered Accountants (S.A.), *Auditors*

CAPE TOWN
4th March, 1969.

PUBLICATIONS ON SALE AT KIRSTENBOSCH

The following may be obtained by application, enclosing payment of 10 cents each, to the Secretary, The Botanical Society of South Africa, Kirstenbosch, Newlands, C.P., South Africa. Prices include postage.

General Hints on Raising Indigenous Plants from Seed: H. F. Werner.
Algemene Wenke oor die Kweek van Inheemse Plante van Saad: H. F. Werner.
S.A. Proteaceae and Their Cultivation: H. F. Werner.
S.A. Proteaceae en Hul Teelt: H. F. Werner.
The Cultivation of the Proteaceae: Marie M. Vogts.
Growing Proteaceae in the Summer-rainfall Area: Marie Vogts.
Propagation and Cultivation of Proteas and Heaths: H. F. Werner.
Growing S.A. Proteaceae in New Zealand: W. R. Stevens.
The Behaviour of some S.A. Proteaceae in New Zealand: W. R. Stevens.
The Propagation of Succulents from Seeds and Cuttings: H. Hall.
Notes on some rare Stapelias from Namaqualand: H. Hall.
Plant Collecting in the Kaokoveld: H. Hall.
Gasteria — A Problem Genus of S.A. Succulent Plants: E. A. Schelpe.
Namaqualand, A Botanical Wonderland: H. Hall.
Some S.A. Biennials and near-Biennials and their Cultivation: H. F. Werner.
Some S.A. Herbaceous Perennials and their Cultivation: H. F. Werner.
Growing Cape Bulbs in the Summer-rainfall Area: Sima Eliovson.
Some Cultural Notes on Disa Uniflora: G. M. L. Feinauer.
Notes on Streptocarpus and its Cultivation: H. B. Rycroft and G. M. L. Feinauer.
South African Epiphytic Orchids I: E. A. Schelpe.
South African Epiphytic Orchids II: E. A. Schelpe.
The Gymnosperms at Kirstenbosch: Enid P. du Plessis.
Die Gymnospermae te Kirstenbosch: Enid P. du Plessis.
The Botany of Basutoland: A. Jacot Guillarmod.
The Botany of Swaziland: R. H. Compton.
The Green Cancers in South Africa — Alien Vegetation.
Die Kankerbosse van Suid-Afrika — Uitheemse Plantegroei.
Ursinia geyeri — With some Notes on its Cultivation at Kirstenbosch: H. Hall.
The Species of Oxalis occurring in the Cape Peninsula and how to distinguish them: T. M. Salter.
Progress in the Study of the Silver Tree Disease: D. Olivier.
Pelargonium — A S.A. Contribution to World Gardens: F. M. Leighton.
Seaweeds: W. E. Isaac.
Plants of Land and Sea: W. E. Isaac.
Plant Names and their Origin: M. R. Levyns.
Birds of the National Botanic Gardens of S.A.: G. J. Broekhuysen.
Saving our Flora: H. B. Rycroft.
The National Botanic Gardens of S.A.: R. H. Compton.
Economic Plants at Kirstenbosch: F. W. Thorns.
Three Hundred Years of Trees — Past and Future: R. H. Compton.
The Wilds: Gwen Edwards.
The Cultivation of Buchu: H. F. Werner.
The Melville Koppies Nature Reserve, Johannesburg: Annabelle Lucas.

Welwitschia bainesii (Hook f.) Carr.: Wim J. Tijmens.
Mist Propagation at Kirstenbosch: J. H. S. Winter.

The following may be obtained on application to The Director, National Botanic Gardens of South Africa, Kirstenbosch, Newlands, C.P.:

Journal of South African Botany, from Volume XVI onwards, each volume in four quarterly parts. R5.00 per volume, R1.50 per part. (To members of the Botanical Society of South Africa, R4.00 and R1.00.)

Reprints of articles published in the *Journal of S.A. Botany* (each) 10c

Supplementary Volumes to the Journal:

I—Genus Oxalis in South Africa: T. M. Salter	*Out of print*
II—Genus Muraltia: M. R. Levyns	R3.50
III—Genus Babiana: G. J. Lewis	R3.00
IV—Genus Agapanthus L'Heritier: F. M. Isaac	R3.00
V—South African Species of Eulophia: A. V. Hall	R3.00
VI—An Annotated Check List of the Flora of Swaziland: R. H. Compton	R3.00

OBJECTS:

1. The promotion of the interests of the National Botanic Gardens of South Africa established under the Trustees of the National Botanic Gardens of South Africa.
2. The preservation of the native flora of South Africa. The Society therefore endeavours:
    - (*a*) To encourage the people of South Africa and other countries in the progress and development of the National Botanic Gardens of South Africa at Kirstenbosch, and any other Garden that may be established by the Trustees of the said National Botanic Gardens of South Africa.
    - (*b*) To augment the Government and other grants towards developing, improving and maintaining the National Botanic Gardens of South Africa at Kirstenbosch and any Garden referred to in the preceding subsection.
    - (*c*) To organize shows at which may be displayed the results of botanical experiments of cultural skill in improving the different varieties of South African flora.
    - (*d*) To enlighten and instruct on botanical subjects by means of meetings, lectures and conferences and by the distribution of literature.
    - (*e*) To promote the preservation of the native flora of South Africa, to encourage public interest in it, and to co-operate with the Public Authorities and others in the attainment of this object.

FOUNDED 10 JUNE 1913

President: Mr. DUDLEY R. D'EWES
Vice-Presidents: Professor R. H. COMPTON, Professor H. B. RYCROFT, Dr. MARGARET R. LEVYNS
Chairman of Council: Mr. M. G. BOTHA
Secretary and Treasurer: Miss J. HARVEY

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Terms of Membership:

Benefactors, subscribing not less than R1,000 over a period of two years or less.

Patrons, subscribing not less than R250 in one payment.

Life Members, subscribing not less than R75 in one payment. (Not open to municipalities, societies, etc.)

Corporate Members, subscribing not less than R15 per annum.

Family Members, subscribing not less than R7 per annum.

Ordinary Members, subscribing not less than R4 per annum.

Associate Members, subscribing not less than R2 per annum and being resident in the Republic of South Africa, S.W.A., Rhodesia, and African Territories only.

(Life Membership is open to Family and Ordinary Members of twenty years' standing for one payment of R20.)

Associate Members enjoy all the privileges of Membership, except that they do not vote at any of the Society's Meetings and are not entitled to share in the free distribution of seed.

Honorary Members may be elected at a Meeting of the Society on the nomination of the Council.

All members except associate members have the privilege of sharing in the free distribution of surplus seeds from Kirstenbosch and Worcester, on application to the Director of the Gardens. The Journal of the Botanical Society, published annually, is sent free to every member. The Journal of South African Botany can be purchased by Members at reduced rates.

Members who wish to support the Wild Flowers Protection Section of the Society may give an annual subscription of 75c per annum in addition to the subscription for the class to which they belong. Those wishing to become Members of the Society are invited to communicate with the Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, C.P.

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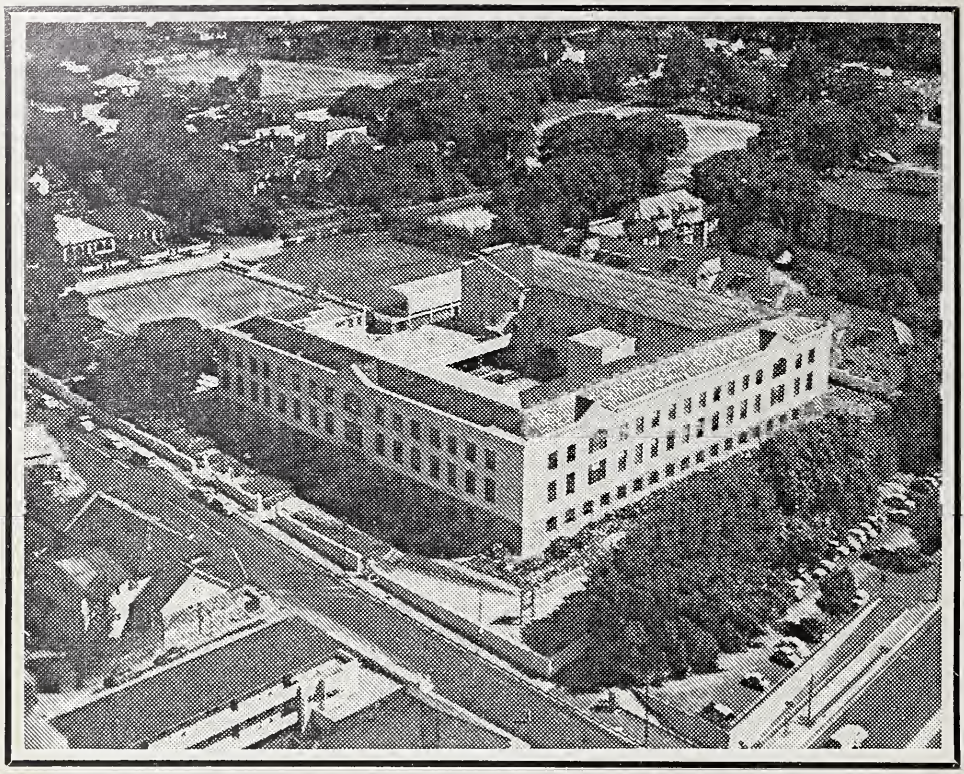

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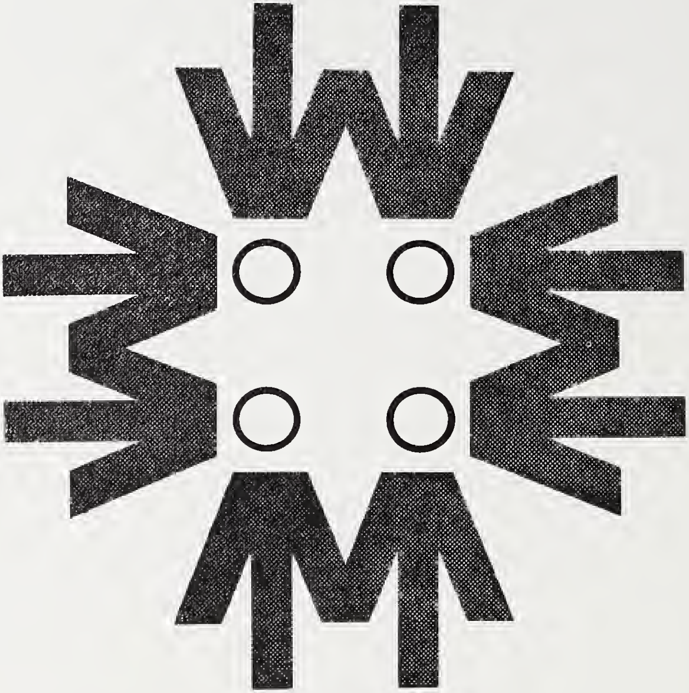
Journal of the Botanical Society of South Africa

Jaarblad van die Botaniese Vereniging van Suid-Afrika

PART 56 · 1970 · DEEL 56



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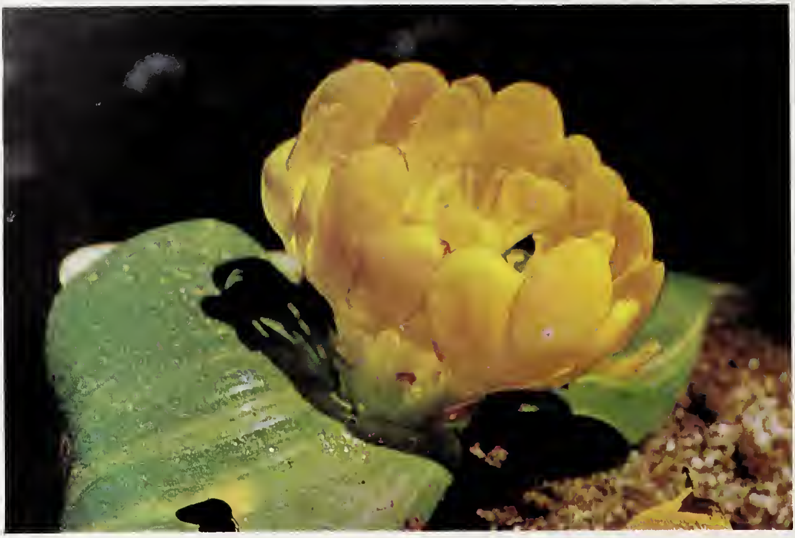

A yellow flowering form of *Daubenya* Lindley

Journal

OF THE BOTANICAL SOCIETY OF SOUTH AFRICA

Jaarblad

VAN DIE BOTANIESE VERENIGING VAN SUID-AFRIKA

PART 56 · 1970 · DEEL 56

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Black-and-white—Lachenalias
,, ,, *Drosanthemum bicolor*
,, ,, Group (handing cheque to Director)

Cover: Daubenya Lindley
Omslag: Photo/Foto—H. Hall

The Chairman of the Botanical Society's Council, Mr M. G. Botha, handing the Society's record cheque to Prof. H. B. Rycroft, Director of the National Botanic Gardens of S.A., while the President, Mr D. R. D'Ewes, and the Secretary of the Society, Miss J. Harvey, share in the notable event.

News and Notes

REGIONAL GARDENS

Significant events during the latter part of 1969 were the establishment of the Lowveld Botanic Garden, Nelspruit, and the Natal Botanic Garden, Pietermaritzburg, at the beginning of November. These were certainly milestones in the history of the National Botanic Gardens of South Africa.

Mr J. P. Nel assumed duty as first Curator of the Lowveld Botanic Garden and Mr P. Law, a senior horticulturist at Kirstenbosch, became Curator of the Natal Botanic Garden.

In 1967 the Gardens extended outside the Cape Province for the first time with the establishment of the Orange Free State Botanic Garden at Bloemfontein, and the Drakensberg and Eastern Free State Botanic Garden at Harrismith. Now there are Regional Botanic Gardens in all four provinces of the Republic of South Africa.

BOTANICAL SURVEY OF THE LOWVELD BOTANIC GARDEN AREA

Mrs Elise Buitendag, Honorary Botanical Officer at the Lowveld Botanic Garden, is undertaking a botanical survey of this area. She has already collected more than 300 species growing naturally in the garden.

'GRASS GARDEN' FOR ORANGE FREE STATE BOTANIC GARDEN

With the assistance of Professor Brian Roberts of the Department of Agriculture of the University of the Orange Free State, it is proposed to lay out a 'Grass Garden' consisting of 167 species of grasses indigenous to the O.F.S. This will be of very great scientific interest and value.

PETRIFIED WOOD SPECIMEN FOR KIRSTENBOSCH

Returning from a visit to the Drakensberg and Eastern Free State Botanic Garden at Harrismith, Professor Rycroft brought an 11-foot (3·35 m) stem of the fossil Dadoxylon (in 5 sections) for permanent outdoor exhibition at Kirstenbosch.

INTERNATIONAL ASSOCIATION OF BOTANIC GARDENS

At the last meeting of the International Association of Botanic Gardens, Academician N. V. Tsitsin, who is head of Botanic Gardens in the Soviet Union, was elected President in succession to Dr Harold R. Fletcher, Regius Keeper of the Royal Botanic Garden, Edinburgh. Mr John S. L. Gilmour, Director of the Cambridge University Botanic Garden and Professor H. B. Rycroft, Director of the National Botanic Gardens of South Africa, were elected Vice-Presidents.

MRS H. M. L. BOLUS

Mrs Bolus died on 5 April, 1970. She had celebrated her 92nd birthday on 31 July, 1969, when Kirstenbosch flowers were taken to her. She was one of the prime movers in the establishment of Kirstenbosch and a foundation member of the Council of The Botanical Society of South Africa, of which she was an Honorary Life Member. Perhaps she was best know as the authority and author of many publications on Mesembryanthemum and allied genera. She was also largely responsible for the inauguration of nature study classes which officially and systematically commenced at Kirstenbosch in 1923.

MR J. ROURKE

Congratulations are expressed to Mr John Rourke of the Compton Herbarium, Kirstenbosch, on the publication of his 'Taxonomic Studies on Sorocephalus R.Br. and Spatalla Salisb.' This is Supplementary Volume No. 7 of the *Journal of South African Botany*. He is at present working on Leucospermum.

FLORAL CLOCK FOR KIRSTENBOSCH

The Rotary Club of Rondebosch, of which Professor Rycroft is a member, will be presenting a floral clock to the Gardens as an amenity to the community. This will be placed near the exit of the old car-park and the dial of the clock will have a diameter of 10 feet.

KIRSTENBOSCH SUNDAY

The first 'Kirstenbosch Sunday' was observed in the Church of the Good Shepherd at Kirstenbosch on Sunday, 26 October 1969, when members of the National Botanic Gardens' staff, Trustees and Council of The Botanical Society of South Africa were present.

YELLOW-WOOD LOG

A section, 1 foot (0·3 m) wide, of a yellow-wood log (*Podocarpus falcatus*) from the Knysna Forests has been donated to Kirstenbosch by Thesen & Co. This is approximately 650 years old and the largest diameter is more than 8 feet (2·4 m). The weight is nearly 3 tons. The log has been displayed for exhibition on the veranda of the Lecture Hall.

HONOUR FOR PROF. H. B. RYCROFT

We offer our sincere congratulations to Professor Rycroft on having been awarded an Honorary Fellowship of the Royal Horticultural Society.

RECORD GRANT

The Society's Grant to the National Botanic Gardens of S.A. for the year ending 31 December 1969 reached the figure of R17,957, which is the highest amount ever paid by the Society.

ESTABLISHMENT OF BRANCH AT BLOEMFONTEIN

The Secretary of the Society, together with Professor Rycroft, attended a meeting in Bloemfontein during April 1969, when a steering committee was formed to establish a branch of the Society at Bloemfontein.

During this visit, Professor Rycroft gave a lecture to members on 'The green gold of the O.F.S.'

The inaugural meeting of the Branch was held on 17 October 1969, in the National Museum Lecture Hall. Following the business of the meeting, during which a Branch Committee was formed, two films were shown on the Kirstenbosch Jubilee and on Nature Conservation. The committee has arranged a programme of meetings for the year.

HARRISMITH BRANCH

During her April visit to Bloemfontein, the Secretary was able to attend a meeting of the Harrismith Branch, when Professor Rycroft addressed members on the recent developments in the various Gardens and illustrated this talk with slides.

CONTRIBUTION TO GUEST HOUSE

Enthusiastic members of our Harrismith Branch have donated two Basuto blankets for use in the Guest House at Kirstenbosch.

NEW CAR-PARK

A new parking area is being established near the Tea House at Kirstenbosch. The old parking area had become far too small for the increasing numbers of visitors to the Gardens and it has now been planted with lawns and flower beds. The floral clock and the fossilized stem of Dadoxylon already referred to will be placed in this area. Trees have been planted in the new car-park and the edges are to be landscaped and beautified.

NATAL BOTANIC GARDEN

The Botanic Garden in Pietermaritzburg was commenced in 1870 and will therefore celebrate its centenary this year. It has a magnificent collection of trees from all parts of the world and is perhaps the first arboretum in South Africa. It is now under the control of the National Botanic Gardens of South Africa and will be maintained in its present state. The old garden occupies only a small portion of the estate and the rest of the area will be concerned with the introduction, cultivation, display, scientific study and preservation of the native flora of Natal.

His Honour The Administrator of Natal, Mr haveman, has kindly consented to perform the official opening of this Garden in August 1970 and at the same time we shall celebrate the centenary of the old garden.

LOWVELD BOTANIC GARDEN

The Lowveld Botanic Garden which has been established at Nelspruit in the eastern Transvaal will be concerned exclusively with the native vegetation of the Lowveld region and will grow plants which are typical of the Kruger National Park and adjacent areas.

The Municipality of Nelspruit has kindly donated a sum of R7 000 to be used for the construction of a guest cottage, laboratory and herbarium.

The land was donated by the Nelspruit Municipality and H. L. Hall & Sons.

PROPOSED COASTAL SUBTROPICAL GARDEN

For several years efforts have been made to find a suitable site for a Garden to be devoted to the subtropical vegetation of the eastern coastal belt of South Africa. A most promising area has been located on the Zululand coast near the mouth of the Umlalazi River at Mtunzini, and steps are now being taken to determine the ownership of the land and whether it could be donated to the National Botanic Gardens of South Africa.

PROPOSED GARDEN FOR THE EASTERN CAPE

To provide Gardens in various parts of South Africa, each to be concerned with the natural flora of its own region, it is most desirable that one should be established in the Eastern Cape Province. We have the Port Elizabeth area in mind.

HOUSE FOR KIRSTENBOSCH MODEL

Some time ago a relief model of Kirstenbosch measuring approximately 3 m by 2·5 m was prepared. Up to now it has been stored in a garage and therefore not on view. Mrs J. M. Unsgaard, a member of the Society living in Cape Town, has kindly donated a substantial sum of money for the purpose of building a structure to house the model. It is to be situated on the upper side of the road between Nursery and Skeleton streams,

BOTANICAL GARDENS FOUNDER HONOURED

Five wreaths were laid at the grave of Prof. Harold Welsh Pearson on 28 January 1970 to mark the centenary of his birth.

Professor Pearson was the first Director of the Botanical Gardens at Kirstenbosch. He died three years after their establishment.

Many of the flowers for the wreaths were from the Gardens which he had planned and worked for so zealously.

There would be far less concern for the future of many rare species of our flora if all farmers would follow the advice of Mr J. W. Loubser in his interesting article in this Journal on his search for a rare *Moraea* species on a bit of waste ground on a farm in the Piketberg district. Mr Loubser suggests that small unusable pieces of land be fenced in to serve as floral reserves. The same point comes out strongly in Mr Hall's article on his rediscovery of *Daubenya aurea*. We commend both these articles to owners of land in South Africa as suggestions of means whereby they can give important service in the conservation of our flora.

Mr John Baldwin of 918 Huron Street, Toledo, Ohio, U.S.A., is eager to have a complete set of the Journals of the Society. He is still lacking Nos. 1 to 25. If anybody can supply all or any of these to Mr Baldwin will they please write to him direct?

The following members resident abroad would like to correspond with members in South Africa:

Mr Henning Christiansen of Fabrica de Tintas de Sacavem, Sacavem, Portugal, who is interested in securing supplies of Brunsvigia, Crinum, Cyrtanthus and Nerine seed not ordinarily included in the Kirstenbosch list.

Mrs H. Emary, Westbury End, Finmere, Buckingham, Bucks, England. Mrs Emary was born at Addo, Cape, but returned with her family to England while still young. She is interested in growing *Gladiolus* species both in greenhouse and garden.

Mrs W. L. Penton, Box 53, Penetanguishene, Ontario, Canada, who 'as a Canadian, am interested in your work. I would be more than pleased to hear from any of your members who would care to write to me and form a chain of interesting correspondence.'

The Wild Flower Protection Committee of the Society is starting a new quarterly journal, *Veld*, which will be sent free to members subscribing a minimum of R0.75 (over and above ordinary subscriptions to the Society) to the Committee. Articles in this publication will be more popular in approach than those in the Society's Journal, and will endeavour to interest all laymen, but especially young people, in plant lore and nature study generally, with a strong slant towards conservation. Write c/o the Society's office.

Nuus en Aantekeninge

STREEKTUINE

Belangrike gebeurtenisse gedurende die laaste deel van 1969 was die aanlegging van die Laeveldse Botaniese Tuin, Nelspruit, en die Natalse Botaniese Tuin, Pietermaritzburg, aan die begin van November. Dit was beslis mylpale in die geskiedenis van die Nasionale Botaniese Tuine van Suid-Afrika.

Mnr. J. P. Nel het diens as eerste kurator van die Laeveldse Botaniese Tuin aanvaar en mnr. P. Law, 'n senior tuinboukundige te Kirstenbosch, het kurator van die Natalse Botaniese Tuin geword.

In 1967 het die Tuine vir die eerste keer buite die Kaapprovinsie uitgebrei met die aanlegging van die Botaniese Tuin van die Oranje-Vrystaat te Bloemfontein en die van die Drakensberg en Oos-Vrystaat te Harrismith. Nou bestaan daar Botaniese Streektuine in al vier die provinsies van die Republiek van Suid-Afrika.

BOTANIESE OPNAME VAN DIE LAEVELDSE BOTANIESE TUINGEBIED

Mev. Elise Buitendag, Botaniese Erebeampte van die Laeveldse Botaniese Tuin, het 'n botaniese opname van hierdie gebied onderneem. Sy het reeds meer as 300 soorte wat natuurlik in die tuin groei, versamel.

„GRASTUIN" VIR DIE BOTANIESE TUIN VAN DIE ORANJE-VRYSTAAT

Met die hulp van prof. Brian Roberts van die Departement van Landbou van die Universiteit van die Oranje-Vrystaat word daar beoog om 'n „Grastuin" aan te lê, bestaande uit 167 soorte gras wat in die O.V.S. inheems is. Dit sal van baie groot wetenskaplike belang en waarde wees.

VERSTEENDE HOUTMONSTER VIR KIRSTENBOSCH

Met sy terugkeer van 'n besoek aan die Botaniese Tuin van die Drakensberg en Oos-Vrystaat te Harrismith, het prof. Rycroft 'n stam van 11 voet (3·35 m) van die fossiel Dadoxylon (in 5 dele) teruggebring vir permanente buite-uitstalling te Kirstenbosch.

INTERNASIONALE VERENIGING VAN BOTANIESE TUINE

Op die vorige vergadering van die Internasionale Vereniging van Botaniese Tuine is akademielid N. V. Tsitsin, wat hoof van die Botaniese Tuine in die Sowjet-Unie is, tot President verkies as opvolger van dr. Harold R. Fletcher, koninklike kurator van die Koninklike Botaniese Tuin, Edinburg. Dr. John S. L. Gilmour, Direkteur van die Botaniese Tuin van die Universiteit Cambridge en prof. H. B. Rycroft, Direkteur van die Nasionale Botaniese Tuine van Suid-Afrika is tot vise-presidente verkies.

MEV. H. M. L. BOLUS

Mev Bolus, wat op 5 April 1970 oorlede is, het op 31 Julie 1969 haar 92ste verjaardag gevier. Blomme van Kirstenbosch is by die geleentheid aan haar geneem. Sy was een van die leidende persone met die aanlegging van Kirstenbosch en 'n stigterslid van die Raad van die Botaniese Vereniging van Suid-Afrika, waarvan sy 'n lewenslange erelid was. Miskien was sy bes bekend as die kenner en skryfster van baie publikasies oor Mesembryanthemum en verwante genera. Sy was ook grootliks verantwoordelik vir die instelling van die natuurstudieklasse wat amptelik en stelselmatig in 1923 te Kirstenbosch begin het.

MNR. J. ROURKE

Mnr. John Rourke van die Compton-herbarium, Kirstenbosch, word gelukgewens met die verskyning van sy „Taxonomic Studies on Sorocephalus R.Br. and Spatalla Salisb". Dit is Aanvullende Boekdeel nr. 7 van die *Journal of South African Botany*. Hy werk tans aan Leucospermum.

BLOMMEKLOK VIR KIRSTENBOSCH

Die Rotariërklub van Rondebosch, waarvan prof. Rycroft 'n lid is, gaan 'n blommeklok aan die Tuine skenk as 'n gerief vir die gemeenskap. Dit sal naby die uitgang van die vorige parkeerterrein geplaas word en die wyserplaat van die klok sal tien voet in deursnee wees.

KIRSTENBOSCH-SONDAG

Die eerste „Kirstenbosch-Sondag" is op Sondag, 26 Oktober 1969, in die Kerk van die Goeie Herder te Kirstenbosch gevier toe lede van die personeel van die Nasionale Botaniese Tuine, Trustees en Raadslede van die Botaniese Vereniging van Suid-Afrika teenwoordig was.

GEELHOUTSTAM

'n Gedeelte, 1 vt (0·3 m) breed, van 'n geelhoutstam (*Podocarpus falcatus*) uit die Knysnabos is deur Thesen en Kie. aan Kirstenbosch geskenk. Dit is ongeveer 650 jaar oud en die grootste deursnee is meer as 8 voet (2·4 m). Dit weeg byna 3 ton. Die stam word op die veranda van die Lesingsaal uitgestal.

EER VIR PROF. H. B. RYCROFT

Ons wens prof. Rycroft hartlik geluk met die toekenning van erelidmaatskap van die Royal Horticultural Society aan hom.

REKORDTOELAE

Die Vereniging se toelae aan die Nasionale Botaniese Tuine van Suid-Afrika vir die jaar geëindig 31 Desember 1969 het R17,957 beloop, wat die hoogste bedrag is wat ooit deur die Vereniging betaal is.

STIGTING VAN TAK IN BLOEMFONTEIN

Gedurende April 1969 het die Sekretaresse van die Vereniging saam met prof. Rycroft 'n vergadering in Bloemfontein bygewoon toe daar 'n bestuurskomitee gekies is om 'n tak van die Vereniging in Bloemfontein te stig.

Gedurende hierdie besoek het prof. Rycroft 'n lesing oor „Die Groen Goud van die O.V.S." vir lede gehou.

Die eerste vergadering van die Tak is op 17 Oktober 1969 in die Lesingsaal van die Nasionale Museum gehou. Na bespreking van die sake op die agenda, toe daar 'n Takkomitee gekies is, is twee rolprente vertoon oor die Kirstenbosch-jubileum en oor natuurbewaring.

Die komitee het 'n vergaderingsprogram vir die jaar opgestel.

HARRISMITH-TAK

Gedurende haar besoek in April aan Bloemfontein het die Sekretaresse 'n vergadering van die Harrismith-tak bygewoon toe prof. Rycroft lede oor die onlangse ontwikkelinge in die verskeie Tuine toegespreek het en sy praatjie met skyfies toegelig het.

BYDRAE TOT GASTEHUIS

Geesdriftige lede van ons Harrismith-tak het twee Basoetokomberse vir gebruik in die Gastehuis in Kirstenbosch geskenk.

NUWE PARKEERTERREIN

'n Nuwe parkeerterrein word naby die Teekamer in Kirstenbosch aangelê. Die ou parkeerterrein het te klein geword vir die toenemende aantal besoekers aan die Tuin en grasperke en blombeddings is nou daar aangelê. Die blommeklok en die gefossileerde Dadoxylon-stam waarna daar reeds verwys is, sal in hierdie gebied geplaas word. Bome is in die nuwe parkeerterrein aangeplant en die rande sal as tuin aangelê en mooi gemaak word.

NATALSE BOTANIESE TUIN

Die Botaniese Tuin in Pietermaritzburg is in 1870 aangelê en sal dus vanjaar sy eeufees vier. Dit het 'n pragtige versameling bome van alle dele van die wêreld en is miskien die eerste boomtuin in Suid-Afrika.

Dit staan tans onder beheer van die Nasionale Botaniese Tuine van Suid-Afrika en sal in sy huidige toestand in stand gehou word.

Die ou tuin beslaan slegs 'n klein gedeelte van die landgoed en die orige gebied sal gebruik word vir die invoering, aanplanting, uitstalling, wetenskaplike bestudering en bewaring van die inheemse flora van Natal.

Sy Edele die Administrateur van Natal, mnr. Haveman, het goedgunstig ingewillig om in Augustus 1970 die amptelike opening van hierdie Tuin waar te neem en ons sal dan ook die eeufees van die ou tuin vier.

LAEVELDSE BOTANIESE TUIN

Die Laeveldse Botaniese Tuin wat te Nelspruit in die Oos-Transvaal aangelê is, sal uitsluitend gebruik word vir die inheemse plantegroei van die Laeveldse streek en plante wat kenmerkend is van die Kruger-wildtuin en aangrensende gebied sal gekweek word.

Die Munisipaliteit van Nelspruit het goedgunstig 'n bedrag van R7,000 geskenk wat gebruik sal word vir die oprigting van 'n gastehuis, laboratorium en herbarium.

Die grond is deur die Nelspruitse Munisipaliteit en H. L. Hall en Seuns geskenk.

VOORGESTELDE SUBTROPIESE KUSTUIN

Daar is al etlike jare gesoek na 'n geskikte plek vir 'n Tuin waarin aandag gegee kan word aan die subtropiese plantegroei van die oostelike kusstreek van Suid-Afrika. 'n Veelbelowende gebied is langs die kus van Zoeloeland naby die mond van die Umlalazi-rivier by Mtunzini gevind en stappe word nou gedoen om vas te stel wie die eienaars van die grond is en of dit aan die Nasionale Botaniese Tuine van Suid-Afrika geskenk kan word.

VOORGESTELDE TUIN VIR OOS-KAAPLAND

Ten einde tuine in verskillende dele van Suid-Afrika te voorsien, waarvan elkeen gebruik word vir die inheemse flora van sy eie streek, is dit baie wenslik dat 'n tuin in Oos-Kaapland aangelê word. Ons beoog veral die Port Elizabeth-gebied.

HUIS VIR KIRSTENBOSCH-MODEL

'n Rukkie gelede is 'n reliëfmodel van Kirstenbosch, ongeveer 3 m by 2·5 m, gemaak. Tot nou toe was dit in 'n motorhuis gebêre en dus nie te sien nie. Mev J. M. Unsgaard, 'n Verenigingslid wat in Kaapstad woon, het goedgunstig 'n aansienlike som geld geskenk vir die oprigting van 'n gebou waarin die model bewaar kan word. Dit sal aan die bokant van die pad tussen Nursery- en Skeletonspruit gebou word.

HULDE GEBRING AAN STIGTER VAN BOTANIESE TUINE

Op 28 Januarie 1970 is vyf kranse op die graf van prof. Harold Welsh Pearson gelê om die eeufees van sy geboorte te gedenk. Prof. Pearson was die eerste Direkteur van die Botaniese Tuin te Kirstenbosch. Hy is drie jaar na die aanlegging daarvan oorlede.

Baie van die blomme vir die kranse het uit die Tuin gekom wat hy voorberei het en waarvoor hy so geesdriftig gewerk het.

Daar sou veel minder besorgdheid oor die toekoms van baie seldsame soorte van ons flora wees indien alle boere die raad sou volg van mnr. J. W. Loubser in sy interessante artikel in hierdie tydskrif oor sy soektog na 'n seldsame *Moreae*-soort op 'n stuk onbewerkte grond op 'n plaas in die Piketberg-distrik. Mnr. Loubser doen aan die hand dat klein onbruikbare stukke grond omhein word om as blomreservate te dien. Dieselfde standpunt is baie duidelik in mnr. Hall se artikel oor sy herontdekking van *Daubenya aurea.*

Ons beveel albei hierdie artikels by grondeienaars in Suid-Afrika aan as wenke oor hoe hulle belangrike diens met betrekking tot die bewaring van ons flora kan lewer.

Mnr. John Baldwin van Huronstraat 918, Toledo, Ohio, V.S.A. wil graag 'n volledige stel tydskrifte van die Vereniging hê. Hy kom nog nrs. 1 tot 25 kort. As iemand mnr. Baldwin van al of enige van hierdie tydskrifte kan voorsien, moet hulle asseblief regstreeks aan hom skryf.

Die volgende lede wat in die buiteland woonagtig is, wil graag met lede in Suid-Afrika 'n briefwisseling voer:

Mnr. Henning Christiansen van Fabrica de Tintas de Sacavem, Portugal, wat graag voorrade saad van Brunsvigia, Crinum, Cyrtanthus, en Nerina wil bekom wat gewoonlik nie in die Kirstenbosch-lys opgeneem word nie.

Mev. H. Emary, Westbury End, Finmere, Buckingham, Bucks, Engeland. Mev. Emary is op Addo in die Kaap gebore maar het saam met haar gesin na Engeland teruggekeer toe sy nog jonk was. Sy stel daarin belang om gladioolsoorte in 'n kweekhuis asook in die tuin te kweek.

Mev. W. L. Penton, Posbus 53, Penetanguishene, Ontario, Kanada, wat as volg skryf: „As Kanadees stel ek belang in u werk. Ek sal baie graag van enige van u lede wil hoor wat aan my wil skryf en 'n interessante briefwisseling wil voer."

Die Vereniging se Afdelingskomitee vir die Bewaring van Veldblomme bring 'n nuwe kwartaalblad, *Veld*, uit wat gratis aan die lede gestuur sal word wat 'n minimum van R0.75 (buite en behalwe gewone bydraes tot die Vereniging) tot die Komitee bydra.

Die behandeling van artikels in hierdie blad sal eenvoudiger wees as dié van die artikels in die Vereniging se tydskrif en daarin sal gestreef word om alle leke, maar veral die jongspan, in die plantkunde en in natuurstudie oor die algemeen te laat belang stel, met klem op bewaring. Skryf p.a. die Kantoor van die Vereniging.

ALEXANDER JOHN MILNER MIDDLEMOST

A tribute from a colleague

W. F. Barker

Mr Alexander John Milner Middlemost or 'Mr M' as he was usually called, was born in 1902 in a house in Newlands Avenue, Cape Town.

He attended school in Cambridge, England, and in Johannesburg at Jeppe Boys' High School.

He then joined the staff of the Johannesburg Municipality and worked in the Gardens and Zoo for a while. Next he served his gardener's apprenticeship in Mr Smith's Nursery in Johannesburg.

In 1922 at the age of 19 he joined the staff of the National Botanic Gardens, Kirstenbosch, as an Improver-Gardener under its first Curator Mr J. W. Mathews, with Professor R. H. Compton as Director.

He married Miss Victoria Brown in 1932 and they had two sons, Peter and Eric. Peter is with an engineering firm in Cape Town and Eric, now Dr. Eric Middlemost, is a lecturer in Geology at the Sydney University in Australia and is married to Dr. Jean Nair of Edinburgh.

Mr Middlemost was appointed Assistant Curator of the Gardens in 1937, a post which he held until his retirement in 1967. In all he served the Gardens devotedly, faithfully and selflessly in many capacities for 45 years, a record which is unlikely to be surpassed.

He knew the answer to every problem and helped to solve them in a practical way. No one ever asked his advice or assistance in vain, whether the matter concerned gardening, carpentry, plumbing, water reticulation, machinery, electricity, exhibitions, flower shows, etc. His assistance, which was always forthcoming to the ladies whether old or young, prompted my mother to call him 'The Ladies Aider'.

Under the guidance of Mr Mathews, he became an excellent plant and seed collector and was responsible for the introduction of many new and interesting plants into the gardens and herbarium specimens into the Bolus Herbarium and later the Compton Herbarium, some of which were named after him, such as *Watsonia middlemostii* and *Freisia middlemostii.*

I first met 'Mr M.' when I arrived at Kirstenbosch as Solly Scholar in 1929 and we were friends and colleagues for over 40 years. When the herbarium collection was moved into the building vacated by the Bolus Herbarium, he was prepared to assist in 'fixing things' even in his spare time.

He was more than ready to organize and equip a collecting expedition and had a great sense of humour. He loved nothing better than sitting round a camp-fire after a strenuous day in the veld, telling 'Tall Stories' about his experiences and reminiscences which he embroidered to suit his audience.

But there was a serious side to his nature too. He enlisted in the army in 1940 and went through the Abyssinian Campaign, East Africa and Egypt with the Engineers.

He was also very public-spirited and served on a number of committees. He was secretary to the Cape Natural History Club for 15 years with Miss Edith Stephens as Chairman and was later made an Honorary Life Member; Chairman of the Cape Horticultural Society for many years; a member of the committee of the Wild Life Protection Society, and a Fellow of the Institute of Parks and Gardens. Both he and Mrs Middlemost were the mainstay at the Botanical Society Meetings and Flower Shows for very many years, and he was later made an Honorary Life Member of the Society.

After his retirement in 1967 'Mr M.' continued to take an interest in the affairs of the Gardens and attended the staff meetings and social events whenever his health permitted. With his death this year the Gardens lost a true and dedicated servant, and it was fitting that according to his wishes his ashes were laid to rest in Kirstenbosch which he had loved and served so long.

Daubenya Lindley

A rare, monotypic, little-known genus of Liliaceae

H. HALL

EARLY HISTORY

The first collector of Daubenya specimens, and precisely when they were introduced into Europe, will probably never be known. The genus was described and figured in *Edwards Botanical Register*, vol. 21, tab. 1813, in the year 1835. The illustration portrays a two-leaved plant with bright yellow flowers and was christened *Daubenya aurea* Lindl. or the 'Golden Daubenya'. Lindley also mentioned the name *Massonia lutea* Hort. as a synonym, which suggests that it was, even then, already known by others as a species of *Massonia*, whose general appearance it closely resembles.

In vol. 25 of the same work a second species is illustrated, this being *Daubenya fulva* Lindl., the 'Tawny Daubenya'. This portrays a two-leaved plant with flowers of a somewhat nondescript, dull pinkish colour. The form of the leaves and inflorescence differs from those of *D. aurea* and will be referred to later.

In *Flora Capensis*, vol. VI, p. 417, yet a third species is described: *Daubenya coccinea* Harv. Since Harvey describes *D. fulva* in the same volume as having 'bright red flowers' one must assume that the colour in *Edwards Bot. Reg.* has faded somewhat during the century and a half of its existence.

Lindley's colour plate of *D. aurea* shows a pair of broad, flat, ovate to acuminate leaves with prominent parallel veins and a sessile cluster of yellow-petalled, very irregular flowers of varying sizes in the centre of the leaf-pair.

Lindley's comments, following his Latin diagnosis, may be of interest to readers. He writes: 'A greenhouse bulb, native of the Cape of Good Hope, whence it was obtained by Messrs Young, of Epsom, under the name of *Massonia lutea*. It flowers in June and is very pretty as well as singular, so long as its blossoms remain expanded, which is about three weeks; afterwards its flaccid leaves have little to attract attention. No trace of this plant is to be found in books, so that it is probably some recent discovery made in the interior of the Cape Colony. From *Massonia*, with which it remarkably agrees in habit, it differs essentially in its tubular, not campanulate, very irregular perianth, and in the absence of the honey-pores which form so remarkable a part of the character of *Massonia*. With the fruit we are unacquainted. We name this new and curious genus after Doctor Charles Daubeny, Professor of Botany at Oxford, whose interesting researches into vegetable chemistry have materially conduced to improve our knowledge of the physiology of plants.'

Lindley also has a few remarks about his *D. fulva* which are interesting reading:

'For a knowledge of this remarkable plant I am indebted to Robert Barchard Esq., of East Hill, Wandsworth, in whose garden it was observed by Professor Royle It had been received from the Cape of Good Hope, with other bulbs, but was believed to have been collected somewhere on the East coast of Africa, or in Madagascar.' He then goes on to stress the even more pronounced irregularity of the flowers of this species, in a Natural Order remarkable for the comparative rarity of floral zygomorphism.

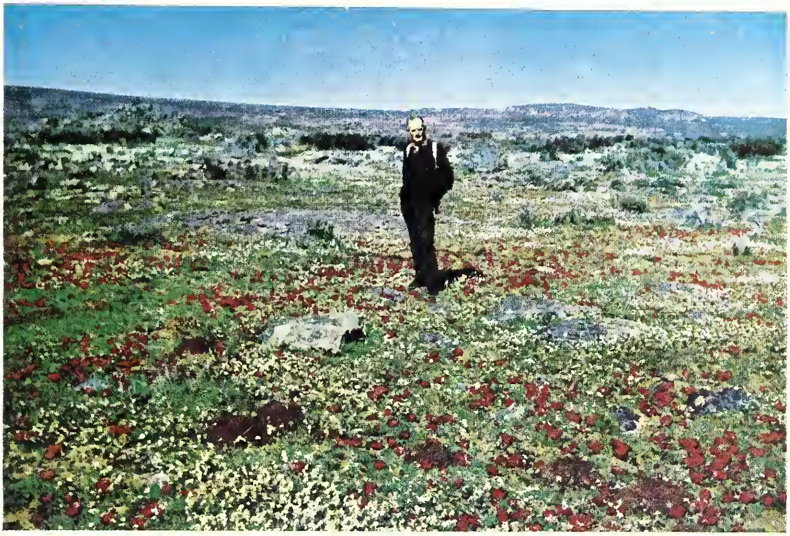
REDISCOVERY BY MARLOTH

Almost a century passed by without any fresh information to add to the Daubenya story until, in 1920, Rudolph Marloth, during a botanical trip to the Roggeveld, came upon Daubenyas in natural surroundings and published an account of his rediscovery in *Flowering Plants of South Africa*, vol. 2, p. 71. He found them on the farm 'Franzplaas', about 40 miles north of Sutherland, thus establishing a genuine locality for the first time. He also stressed the fact that they grew in heavy red clay. From his observations at 'Franzplaas' he concluded that the distinguishing characters given by Lindley, and later on by Harvey, are very variable and not of specific importance, reducing *D. fulva* and *D. coccinea* to varieties of *D. aurea*. The illustration in *Flowering Plants of South Africa* depicts a plant with vivid scarlet flowers. Marloth's glowing description of the brilliant flowers did not, it seems, herald its re-establishment in the horticultural world, extremely worthy though it is, for any such records are woefully absent.

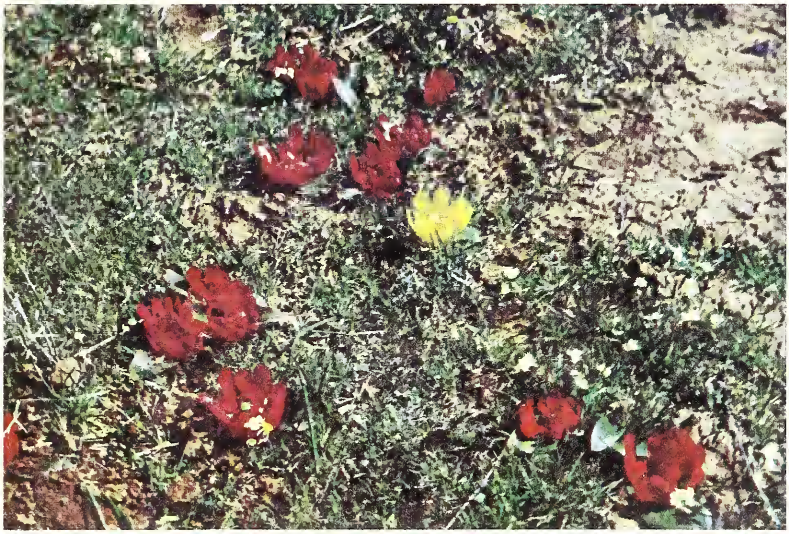
Living specimens were donated to Kirstenbosch by a Mr Metlerkamp in 1936, and from these a red-flowered and a yellow-flowered plant are preserved in the Compton Herbarium. The cultivated specimens in the National Botanic Gardens did not, it seems, survive for long; neither, apparently, were any further plants collected until 1968, with which the rest of this account deals.

The existence of *Daubenya* as a sought-after genus was first brought to my notice by a chance remark by Miss W. F. Barker, of the Compton Herbarium, after a short trip to Verlatenkloof, near Sutherland, which my wife and I undertook, in June 1968, to re-collect specimens of *Haworthia granulata* Marl. for Kirstenbosch. We made a rough copy of the plate in *Flowering Plants* with a view to showing it to those country people likely to recognize it as a local plant. 'Franzplaas' being located on one map in a somewhat remote part of the country, we expected a difficult and protracted search.

During discussions about the forthcoming trip it was recalled that a branch of my father-in-law's family had settled in the Roggeveld generations ago with which no contact had been made for more than 60 years. The telephone book revealed that people of that surname were still farming in the area and prompt correspondence not only supplied all necessary directions to their home, but our description of Daubenyas brought forth the response: 'We know the red lily well', and that at the right time of year it 'colours the veld scarlet'. It was as simple as that, almost too good to be true, and our copy of Marloth's colour plate proved entirely superfluous! We were told that the best time would be between late September and early October, but so anxious were we to see the vision conjured in our minds, and to fit in with other plans, that we went on 21 August.



Mr. H. Hall in a field of Daubenya



A contrasting yellow form amongst the brilliant red Daubenya.

THE REAL THING

Conducted to a farm several miles from 'Franzplaas' we were told 'You are still too early', and introduced to a level area thickly populated with dwarf bulbous species of several different kinds, with nothing at first visibly in flower, in a carpet of very short grass. Rather crestfallen, fully convinced that we were truly too early, reluctant to gather specimens that could well have been anything but Daubenyas, we roamed about until, at length, a tiny, globose, tell-tale spot of red, just visible between overlapping green bracts, provided proof of the real thing, our first sight of *Daubenya aurea* var. *coccinea*. Our excitement was immense and soon there were more and yet more, with a modest half-dozen bearing almost fully expanded flowers. From these it was easy to recognize them in all their early stages, right back to the first appearance of the green, flat-topped bud tightly enclosed by green bracts, mostly with a small crown of fine red clay washed down in the recess of the leaf axils by late winter rains. In the early stage of flower development the red 'blobs' reminded me most forcibly of the young flowers of red peonies.

We departed for home with our treasured plants and left our 'distant cousins' with a final request for any clues they might obtain as to the whereabouts of 'yellow lilies', *Daubenya aurea* itself. In less than a week a letter informed us that the 'yellow lilies' had been located some 12 miles in another direction.

Thus, just two weeks after our first visit, we were once more in Daubenya country, and speedily taken to the farm which had been located for us. Here the veld was much more stony and Marloth's 'heavy red clay' much in evidence. Rich, golden-yellow spots, much more widely spaced than on the scarlet form, dotted the landscape for several hundred yards. Almost every plant had fully expanded flowers, many already fading and bearing gravid fruits. Nowhere did we find the slightest indication of colour variation here, all conforming to the description of *Daubenya aurea*. As with the area investigated two weeks earlier, the extremely stony, clayey nature of the ground would preclude any economic use of the plough and thus their survival seems assured. A mature specimen with fully expanded flowers measured 5 inches (12·5 cm) across, almost eclipsing the pair of wide, flat leaves. Younger plants carried smaller inflorescences having fewer individual flowers. We were told that the winter rains and snow had been better than average with the result that this particular area was gay with numerous other plant forms in flower. A large-flowered, pinkish-mauve *Romulea* was far more plentiful than Daubenyas, a dwarf, white-flowered *Heliophila* so abundant as to hide the dull-coloured clay, and almost every thorny bush of *Eberlanzia spinosa* sheltered bulbs of a pale blue *Geissorhiza* or the cream-coloured *Hesperantha radiata*.

Since Marloth's 'Franzplaas' had to be investigated we were conducted there, but the only area with 'heavy red clay' was occupied by a herd of rams and, having just revelled in the beauty of Daubenyas in their prime, it was tragic to witness the results of grazing upon what is one of the rarest plants known to botany. Leaves and petals had been grazed to the ground and, oddly, the red Daubenyas minus the crimson petals looked exactly like the Massonias which also abounded there. Any of the colour variations recorded by Marloth were utterly obliterated. It was a very sad picture.

We then hurriedly returned to our first farm where we had first seen the Daubenyas in their early stage of development. It is impossible to describe adequately the dazzling sight that came into view. Two weeks earlier we had seen scattered red 'blobs', now there were hundreds of thousands of Daubenyas in full flower which truly coloured the veld scarlet. In places as many as 50 plants per square metre were counted and for about a morgen this vivid hue was utterly dominant.

PROBLEMS OF CULTIVATION

Since all three localities investigated consisted of heavy clay, particularly tenacious when wet and in summer almost as hard as the rocks surrounding the bulbs, and have a winter rainfall of less than 10 inches (250 mm), with frosty winters and hot, dry summers, it remains to be proved whether more conventional soil mixtures will suit the cultural needs of Daubenyas in gardens. That they were cultivated and flowered in Epsom and London 150 years ago we know from their scanty history. I can well visualize the interest such specimens would create, as indeed they must have done in Lindley's time, when grown as 'alpines' in cold-frames or cool greenhouses in Europe. In South Africa we should find no real difficulty in establishing them, especially in the winter-rainfall areas. Real efforts should be made, for Daubenyas, both yellow and crimson, are truly among the flora gems in the South African flora.

In my opinion these two subjects should be included in the lists of protected species. Though abundant in one of the areas investigated they have a limited distribution and the reason that they have never become better known is their comparative remoteness from populated centres. Those on 'Franzplaas' must eventually succumb to stock depredations if the frightful conditions in which we saw them are any guide. Cultivation for grain crops in one area has undoubtedly eradicated, through successive years, incalculable numbers. Where low rock outcrops defeated the plough, survivors were bravely flowering on their tiny island sanctuaries and a few still struggled to survive among the furrows of newly ploughed land. The area with the densest population mentioned above is, happily, too rocky for cultivation, and there is also the fortunate circumstance of its being camped off to protect the cereal crop. When it is opened to stock after the harvest, the Daubenyas have safely died down.

Our visits stimulated such local interest that the likelihood of permanently fencing in a morgen or so of the finest colony of the scarlet variety was discussed. The area in the Roggeveld in general remains little explored botanically; species of Iridaceae and Liliaceae abound and we hope to find out more about these in the future.

The Drakensberg and Eastern Free State Botanical Garden

E. B. Hawkins

This Garden has just been moved to a new home in beautiful surroundings below the Platberg, which, 6 miles (9·6 km) long, towers some 2 000 ft (610 m) above the little town of Harrismith and provides a magnificent background for the town and the Garden.

The reason for the move is mainly to be assured of a good supply of water—the major need of every garden, of every town and indeed of every country, as South Africa is learning more thoroughly every day.

Since the new site of the Garden is in a valley, up to 100 ft (30 m) deep at deepest, where are situated the Harrismith Waterworks, there is little fear of a water shortage. Indeed, the town itself owes its position to the streams of clear water flowing down the slopes of the mountain—a supply lacking at Major's Drift, where Robert Moffat, son of the famous missionary, first laid it out. The Elands River was at hand, but the Orange River Sovereignty treasury had not sufficient funds to pay for a pumping station. Hence the 18-mile (29 km) move to the foot of Platberg with its streams.

Here the first inhabitants dug a channel some 5 000 yards (4·5 km) long to carry water down to the village from the very stream which will help develop the Garden.

In 1887 the present storage reservoir was constructed, and later covered in. Ten years later two beautiful sheets of water, the Von During and the Hawkins Dams, were made a little higher up the stream. They will provide a wonderful centre for the Garden, reflecting the trees and the clouds and the mountain above and around them in their placid levels. To augment the quantity of water available a channel was made to lead water from the old Homestead valley near by, where lived Jan Snyman on whose farm the town is situated. Later a second channel was made. Both provide the enchanting sound of falling water as they discharge their contents into the storage dams.

Two thousand feet (610 m) above lies the Gibson Dam with a capacity of 120 000 000 gallons (545 000 000 litres) of water collected from springs in that high valley, and from it the main stream flows down to the Waterworks. Up here, too, there is a concrete channel bringing in water from the neighbouring Horseshoe Valley.

The Royal Engineers, stationed here after the Anglo-Boer War, surveyed the whole area and dammed the valley on top with a wall two-thirds of the present height at a cost to the town of £386! When the municipality later added an extra 10 feet (3 m) to the wall it cost £4,300. Later still an extra 5 feet (1·6 m) was added, which brought the wall to its present height. Gravity takes the water down with no need for expensive piping.

To 'make assurance double sure' and to provide for the needs of the wool- and cotton-mills, the milk factory, the carpet factory, and the proposed biltong and boerewors factory, a weir was built across the Wilge River and water pumped up over Queen's Hill, the original site of the Garden, and over King's Hill to the purification plant at the Waterworks. The municipality has indeed realized that water is important, and its work in the past promises well for the future of the Garden.

North-east of the site, on the foothills of Platberg, lies the Alexandra Forest established by the Imperial Government in 1906, and due north is the old Municipal Forestry Department. The municipality bought the Alexandra Forest and now owns huge plantations and nurseries from which the sale of timber, flower and vegetable seedlings, poles, planks, etc., brought in last year a profit of R100 711. Even the military plantations on King's Hill have been enlarged and now extend towards the Waterworks Valley.

These plantations and nurseries are, of course, a business undertaking, but their success proves that the soil is fertile and conditions favourable for gardening.

The valley contains many ferns and flowers besides some indigenous shrubs and trees which are fighting a losing battle against the black wattles, pines, etc., that have been introduced. But Professor Rycroft says these will gradually be eliminated and the natural growth encouraged to produce a small forest. There is ample room for expansion along the stream north-east and south-west, and on the higher ground above the valley.

GARDEN OF THE PAST

The idea of growing wild flowers in this place is not new, for once the valley enclosed a delightful garden, largely of wild flowers brought in and tended by Mr Morkel, a veteran of World War I who was in charge of the Waterworks. It gave great joy to him and to the many visitors who came to sit on his rustic benches and admire the flowers. But alas! he went to take charge of the Municipal Pound, and his garden gradually petered out for lack of care.

There are other attractions here too. The Anglers' Club fishes trout in the dams, and a record fish—14 lb (6·25 kg) in weight—caught here is on exhibition at the Natal National Park.

A feature of interest is a blockhouse situated on the miniature sandstone cliff overlooking the valley. It was built by the British troops, and housed a small picket whose duty it was to guard the town's water supply. This has now been declared a historical monument and bears the appropriate plaque.

Strange as it may seem, under this same sandstone cliff the last lion in Harrismith was killed in 1855, and he was responsible for the death of the only white man killed by the king of beasts here. J. M. Orpen, though not an eyewitness, got a first-hand account of the incident while surveying the town and district on the instructions of Sir Harry Smith.

Apparently several horses had been killed by lions on the town commonage so a party of four set out to hunt them down. They killed a couple of lions and chased a third into our valley. There they all fired at it. It turned and charged, seizing the foremost man, William Holder. One of the others shot it through the head. Unfortunately Mr. Holder died the next day.

For its site, its fertility, and its historical associations the Waterworks Valley is an ideal site for a botanical garden. Closely associated with the town at all periods of its history, it is yet not in it, but near enough for easy access. This has made it familiar to generations of townspeople and their friends from elsewhere. The presence of the Garden will make it more than ever a place in which to enjoy mountains, water, trees, flowers and bird-song at all times of the year.

SEEDLIST — 1971

In the past it has been our practice to send the seedlist etc. to members whether their subscriptions have been paid or not. If subscriptions remain unpaid for two years these names are removed from the current list. Many members have been under the impression that if they have received their seedlist, membership cards etc. their subscriptions must have been paid, whereas this did not automatically follow In order to avoid this misunderstanding and to bring us in line with other societies, it has been decided by the Council of the Botanical Society of S.A. that, as from 1971, the seedlist, membership card and parking discs will be sent to members only after their subscriptions have been paid up to date. The reminders will therefore be posted earlier than usual.

This ruling will not apply to those members living outside the Republic of South Africa.

'n Oorblyfsel van 'n Verlore Flora

J. W. LOUBSER

In die wye vallei begrens deur die Piketbergreeks, die Olifantsrivierberge en die Bergrivier, is die natuurlike plantegroei nou nagenoeg volkome verwyder om plek te maak vir graanlande. Net hier en daar is daar nog klein stukkies grond wat vir die landbouer nutteloos was omdat dit te skuins of te klipperig was om te ploeg. Hier kan nog een en ander van die oorspronklike plantegroei van die streek aangetref word. Dit was so 'n stukkie grond wat ek in September 1966 en weer in September 1968 besoek het, om voorbeelde van 'n skaars *Moraea* sp. te verkry.

Dié spesie het die aandag getrek omdat, hoewel dit oppervlakkig baie soos *Moraea villosa* lyk, dit plantkundig besonders van ander *Moraea* spp. verskil. Dit is indertyd aan wyle dr. Joyce Lewis beskryf, en sy het dit herken as *M. gigandra* L. Bol., maar sy het gevind dat daar nie voorbeelde daarvan in die herbarium in Kirstenbosch was nie. Die skrywer het daarop onderneem om voorbeelde vir die herbarium te verkry. *M. gigandra* is interessant in dié opsig dat die helmknoppe aansienlik langer en groter is as die styllobbe, terwyl dit in die *Moraea* spp. deurgaans net andersom is. Dit lyk of dié spesie nou beperk is tot 'n paar baie klein stukkies afvalgrond in die Piketbergse distrik.

Die stukkie grond wat ondersoek is, is 'n smal strokie baie skuins grond langs 'n sloot. Daar is baie min bogrond op die onderliggende skalie, en om daardie rede is bolplante nie net veilig teen die ploeg nie, ook teen molle en varke. Daar is ongelukkig baie min van die struike oor en dit bestaan meesal uit kraalbos (*Galenia africana*). Moontlik is die struike vir brandhout verwyder, waarna die grond deur die kraalbos ingeneem is. Hier en daar is daar nog 'n taaibos (*Rhus glauca*), *Euclea tomentosa*, 'n *Lycium* sp. en besonder opvallend was 'n *Wiborgia* sp. met ritse rooierige blomme.

Omdat dit egter so 'n besondere gemeenskap van bolplante is, is besondere aandag aan hulle gegee. Mees opvallend en talryk was *Cyanella lutea*. Hierdie spesie is volop suidwaarts en verder ooswaarts veral in die suidelike deel van die Karoo, maar dit was nogal 'n verrassing om hulle ook hier aan te tref. Byna ewe opvallend en talryk was die sonderlinge *Geissorrhiza tulbaghensis*. Ook hierdie spesie is 'n uitsondering in sy genus wat die meeldrade betref. Waar hulle gewoonlik simmetries geplaas is, is hulle in hierdie spesie saam na een kant gerig. Nog drie ander *Geissorrhiza* spp. is opgemerk: *G. secunda*, *G. quinquangularis* en een wat nie uitgeken kon word nie. Hul naverwante, die Hesperanthas, was ook deur twee spesies verteenwoordig, naamlik *H. pilosa* en *H. falcata*, albei egte aandblommetjies.

„ONS KAN MAAR NET HOOP . . .”

Die sierlike *Moraea gigandra* was daar, maar lank nie volop nie. Ons kan maar net hoop dat die paar wat nog oor is, sal bly voortbestaan. 'n Ander spesie wat moontlik ook tot hierdie gebied beperk was, nl. *Romulea cruciata*, is nog volop. Die besonder breë blare en veelkleurige blomme maak dit uitstaande onder die ander lede van die genus. Die Babiana wat daar voorkom is moontlik 'n hibried. Die blom is onderstebo gedraai soos by *B. secunda*, maar dit toon origens meer ooreenkoms met *B. stricta*. Albei hierdie spesies is elders in die omgewing aangetref. *Hexaglottis flexuosa* is opgemerk, maar omdat ook mense die knolle as 'n lekkerny beskou, bly hul getalle beperk.

Onder die soorte wat nie in die blom was nie, was 'n enkele *Ferraria framesii* en 'n *Ixia* sp. *Ornithogalum thyrsoides* was redelik volop maar ook nog nie in die blom nie. Dit is my meegedeel dat *Gladiolus orchidiflorus*, *G. alatus* en *G. venustus* nog in die nabyheid voorkom, maar ek het dit nie gevind nie. *Amaryllis belladonna*, wat oorspronklik baie volop in die omgewing was, het ek ook nie gesien nie. Die blare van *Haemanthus tigrinus* en taamlik baie van *Brunsvigia appendiculata* is egter opgemerk.

Slegs een orgidee is gevind. Dit is *Anochilus inversum*. Die spesie was waarskynlik oorspronklik baie volop in die gebied, maar slegs enkeles word nou aangetref.

Hoewel hierdie nog 'n baie interessante versamelinkie is, het daar waarskynlik vir elke soort wat genoem is, 'n paar verdwyn. Dit kan net gehoop word dat meer boere bewus sal word van die waarde van hul stukkies afvalgrond, en dit doelbewus sal opsysit vir die bewaring van die plantegroei van die streek. Dit is wenslik dat dit omhein word om dit teen beweiding en vertrapping te beskerm. Dan kan soorte wat anders in die pad van die ploeg sou kom, daarheen oorgeplant word.

Lachenalias as Pot Plants

J. H. S. Winter

Lachenalias are relatively easy to grow, and are well suited for pot culture. These bulbous plants mostly occur in the south-west Cape, in well-drained sandy soils. The bulbs should be planted in March, preferably in a potting mixture of coarse leaf-mould and well-rotted manure in equal quantities, with a little sand added. A teaspoon of superphosphate can be added to the mixture for each pot. The mixture must be porous and open, to allow for maximum drainage. The bulbs should be planted about an inch below the surface and watered well after planting. Water sparingly until growth appears. Once in full growth Lachenalias enjoy liberal watering, provided that they are well drained, and grow well in a sunny situation. On the Highveld, however, shading during the heat of the day is necessary.

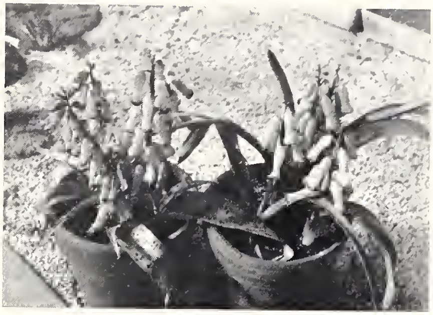
Lachenalias respond well to feeding with regular applications of manure water during the growing season until flowering. Do not apply too much nitrogen as this encourages the development of excessive foliage. Once in flower, Lachenalias in pots can be taken indoors. Staking with a neat stake may be required to prevent the flower spikes being damaged.

When the leaves show signs of yellowing after flowering, watering must be reduced gradually. When completely dry the bulbs should be lifted and stored in peat moss until the following March.

Propagation by seed is relatively easy; however, not all species set seed readily. Fortunately, Lachenalias multiply by producing many bulblets during the growing season, and these can be used to increase one's stock of plants. They may also be reproduced by leaf cuttings.

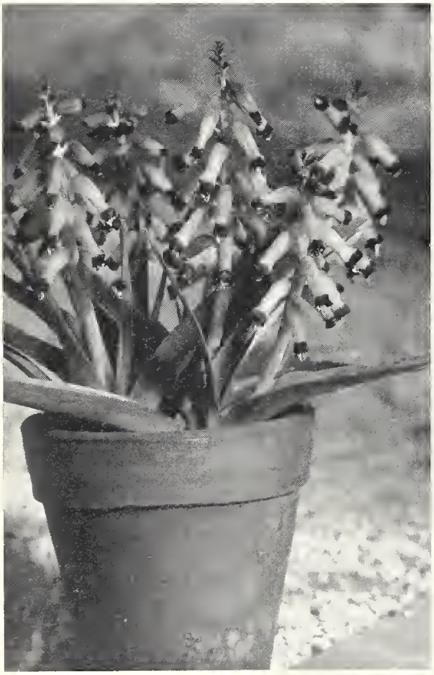
One of the most attractive and colourful species is *L. tricolor* var. *quadricolor*. It occurs naturally in many forms in the Darling district, growing on granite outcrops. The leaves are broad at the base and may reach a length of 12 in. (30 cm), tapering to a point. These fleshy leaves are either plain green or mottled with brown spots. They flower in July, producing upright flowering spikes with many tubular flowers.

There are many other species of Lachenalias which are worthy of a place on the stoep or in the garden, such as *L. glaucina*, with pale blue flowers in October; *L. rubida*, one of the first to flower in June, bearing bright red flowers; *L. tricolor* var. *aurea*, flowering in August, with pure golden yellow flowers; *L. pendula*, flowering in July, with pendulous red flowers.



Lachenalia pearsonii (hybrid).

Photographs: J. Winter



Lachenalia tricolor var. *quadricolor*.

Nuweberg as a Floral Reserve

S. W. Chater

At the top of the Viljoen's Pass on the road from Elgin to Villiersdorp in the Western Province, there is a not very conspicuous notice board announcing the Nuweberg Forestry Reserve. The mountain slopes in the near distance are covered with pine trees, and tucked away beneath them is the forestry station itself. There is nothing to indicate that a vast unforested area lies beyond the mountains, an area with an extremely rich flora. This stretches eastward from behind the Hottentots-Holland peaks rising between Somerset Sneeukop and Spitzkop to the eastern end of the Franschhoek Pass and almost to the outskirts of Villiersdorp. It includes the Dwarsberg massif, the Franschhoekberge, part of the Groenlandberge as well as quite a large portion of the Riviersonderend marsh. Within the reserve rise the Palmiet and Sonderend rivers, each of which tumbles precipitously down its own deep gorge while between them is the deep and shadowy slit that is Drosder Kloof. The whole area is a botanist's paradise, and there is now a possibility that the greater part of it may become a special floral reserve under the administration of the Forestry Department.

With the kind permission of the Department, the writer and Mr E. Oliver, senior, have been able to explore the Reserve over a period of four years. But in that time we have seen only a very small portion of it at close quarters and this despite frequent visits. On each visit we have seen some species new to us, for Nuweberg harbours quite a few rare plants and many beautiful ones. In the shallow valley between the Drosder Kloof and the Riviersonderend Gorge, the lovely *Mimetes argenteus* can be seen at its best. Keeping it company is the rare *Paranomus septrum*. At 4 600 ft (1 406 m), between Landdrost Saddle and Sneeukop along what we have named Grandiceps Path, there are literally thousands of bushes of *Protea grandiceps* with many plants of *Kniphofia tabularis* and a few of the sprawling *Protea turbiniflora* among them. On Saddle Path, which leads from Sitienskop to the Saddle, we have seen a solitary plant of *Klattia partita* var. *parva*.

Ericas abound in the reserve. There are dozens of species. At De Gaulle Rock which, in certain lights, bears some resemblance to *le Grand Charles* and consequently has considerable value as a landmark, one is in the centre of a huge erica garden stretching a thousand feet or more up the slopes, which rise on all sides. In December and January these slopes are pink with *Erica sitiens*, *E. fastigiata*, *E. coriifolia* and the rather less sociable *E. tegulaefolia*. In early spring the General is knee-deep in *E. fastigiata*, while among the rocks which surround him we have found *E. imbricata*, *E. sessiliflora*, the yellow *E. coccinea*, the red *E. plukeneti*, the odd *E. amphigena* and white *E. calycina*. The pink calycina, *E. periplocaeflora*, is found throughout the reserve. Over towards Sitting Falcon Rock and Hammurabi Rock grow *E. sexfaria* and the newly-named *E. jacksoniana*. *E. odorata* takes some finding in the shade of Sitienskop. *E. longifolia* vies with *E. sitiens* for numerical superiority. Along Landdrost Path, which skirts the eastern slopes of Landdrost Kop in the direction of Spitzkop at 3 700 ft (1 130 m), there is probably what is the largest known colony of *E. longifolia*, the pink and white one. It makes a solid bank some hundred yards long and 200 ft (60 m) wide. From 2 800 ft (854 m) the deep red variety is frequent, but the plants are usually scattered. There are colonies of the white variety in many places and a few solitary bushes of the green where the Palmiet emerges from its gorge.

A very rare plant is *Glischrocolla formosa* (*G. lessertiana*). It grows on the dangerously steep slopes of Landdrost Kop. *Protea stokoei* one finds by accident as most bushes are solitary, but they make good landmarks once discovered. The same applies to *Leucospermum oleaefolium*. *Leucadendrons* are more abundant; *L. salicifolia* paints the Palmiet valley with gold in August and September and *L. decurrans* the slopes slightly later.

The reserve is dotted with marshy areas in many of which the long, lanky stems of the yellow *Ursiniopsis* sway in the wind. Occasionally one sees the iridescent flower of a *Disperis paludosa* or a few plants of *Erica campanularis*. *Spiloxines* are plentiful and, in some years, the tiny *Penthea patens*. One of the reserve firebreaks runs from Sitiens Kop to Landdrost Saddle. After it was burnt two years ago a few hundred fire-lilies blossomed within nine days. The following spring the burnt area produced tens of thousands of flowers of the deep pink *Gladiolus blandus*. Last September, just below the Landdrost Saddle, a few hundred plants of *Anemone capensis* produced pink, mauve and white flowers. Even the river-beds produce their quota of flowers. Along the Palmiet from the forest to Sentinel Rock, *Disa tripetaloides* is plentiful and now and again one sees a *Disa uncinnata*. Drosder Kloof boasts quite a few plants of *Disa uniflora*, while large bushes of the red *Erica curviflora* droop over its pools.

No matter what the month, Nuweberg produces a fair quota of flowers. Admittedly, the rainfall is heavy, as much as 90 inches at the higher altitudes; but what is a little rain to the enthusiastic hiker well insulated inside windcheater and waterproof pants? The late autumn and winter hikes are well worth while. In May the pink *Tritoniopsis* dots the slopes and the lanky *Erica fascicularis* trembles among the rocks on the ridges. If there is snow in July or August, *E. intervaleris* will not mind nor the early-flowering *E. tegulaefolia*, which, like *E. baccans*, retains the colour of its flowers for a very long period.

One could continue with this list of species and use many thousands of words in the process. One might describe the clumps of *Dilatris viscosa* and *Crassula jasminiflora*, the green-centred *Ursinia* and the purple *Therianthus*, but they are all there to be seen by those interested enough to get a permit from the forester, hike over the slopes, investigate the depths of the kloofs, and search among the rocks of the ridges and along cascading streams. Although a couple of sea eagles may glide overhead and a ribbok snort a warning from his lookout, all is wonderfully peaceful. Then there is the reward of tea or supper under the pine trees with the Palmiet trickling over the causeway.

The Nuweberg Reserve, one hopes, will become a real floral reserve but not of the type to which picnickers flock. Part of its charm is its wildness — that but for the few firebreaks, paths and tracks to facilitate fire-fighting, it has scarcely been touched by the hand of man. There are no beer-cans in the streams, no glass on which to cut one's foot, no plastic bags thrown away by those too lazy to burn or bury them. It is a reserve for nature lovers and should be preserved as such for all time.

Members residing outside the Republic of South Africa who desire to have their seed by airmail should indicate this clearly ON THE DESIDERATA (AIRLETTER SEED ORDER FORM). An extra charge of R1.00 (Brit. Stg. £0.11.10 or U.S.A. $1.64) is levied for this service, which can be paid together with subscriptions

Lede wat buite die Republiek van Suid-Afrika woon en wat graag hul saad per lugpos wil ontvang, moet dit duidelik meld OP DIE DESIDERATA (LUGBRIEF-SAADBESTELVORM). 'n Bykomstige bedrag van R1.00 (Brit. stg. £0.11.10 of V.S.A. $1.64) word vir hierdie diens gevra, wat saam met ledegeld betaal kan word.

Twenty-year Plant of Drosanthemum Bicolor

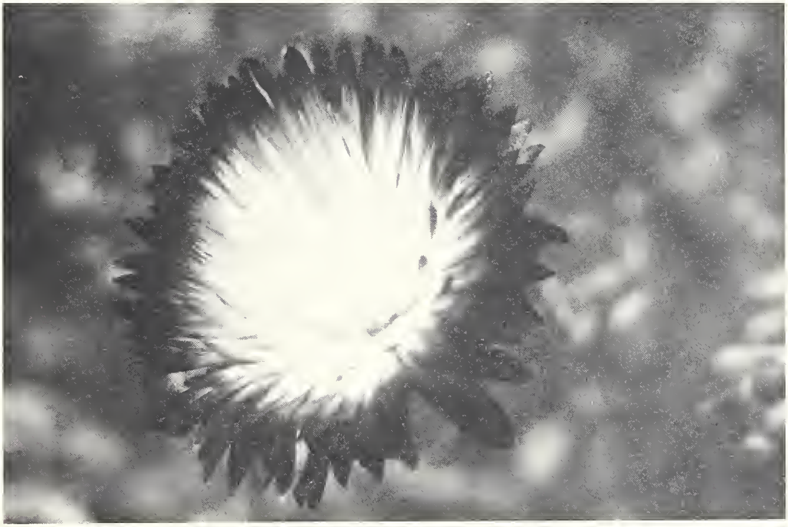
WALTER WISURA

In December 1949 Mr Harry Hall, the well-known succulent expert, who was in charge of the succulent section at the National Botanic Gardens at Kirstenbosch for over 20 years, discovered in the vicinity of Vanwyksdorp in the Little Karoo a pretty new species of Drosanthemum.

Dr L. Bolus named it *Drosanthemum bicolor*. The diagnosis was published in Part II of the *Notes on Mesembryanthemum and Allied Genera* in August 1950.

The type plant still flourishes on one of the terraces in the nursery at Kirstenbosch. It is a very handsome erect-growing shrub. In its lifetime of 20 years it has reached a height of about 50 cm. Every few years it has been pruned quite severely and it has branched beautifully from near the base, giving it a nice and neat appearance. Every springtime this shrub flowers profusely. Almost each branchlet bears one of the showy flowers.

In contrast with most of the other Mesembryanthemaceae it does not grow well from cuttings. But seeds germinate easily and the young plants grow fairly quickly.



Drosanthemum bicolor growing at Kirstenbosch. Photo W. Wisura

Nature Study at Kirstenbosch

J. JORDAAN

THE BEGINNING: 1914–23

When Kirstenbosch was initiated as a Botanic Garden it envisaged closer co-operation between the University of Cape Town's Botany Department and a place for botanic studies of indigenous flora.

Mrs H. M. L. Bolus crystallized an idea for education at a lower level—Nature Study. Starting soon after the founding of these gardens, she took regular classes of schoolchildren round the gardens and led them to see the realities of plant, insect and bird life. At this stage the classes were unofficial, but she eventually persuaded the Provincial Education Department that nature study was of vital importance—not so much as an item on the curriculum but as a means of contact between life phenomena and the individual child.

During the Easter holidays in 1920 she held a 10-day course for Cape Town Training College students, using the Kirstenbosch hostel as a base. This had far-reaching results, as three years later, in 1923, Miss Letitia E. Starke was appointed by the Education Department to organize Nature Study classes. Several schools visited Kirstenbosch regularly to attend classes here.

DEVELOPMENT: 1923–59

In 1923 Miss Muriel E. Johns succeeded Miss Starke as nature study teacher at Kirstenbosch. This aspect of Education was to become her life's work. She stayed on at Kirstenbosch as teacher until 1959—the year of her retirement. She was subsequently reappointed for three years and can boast of 31 years of service here. For many who are now adults, Kirstenbosch and nature study are synonymous with Miss Johns. To a person who has not accompanied her on a nature ramble, it is difficult to describe the keenness with which she observed—and still observes!

The Lecture Hall, as it is called, was built in 1938–9 for educational purposes. It was used by the school as a starting point for introductory discussions and consolidation of the day's work—and as a shelter and retreat when the weather is poor. The stoep, which was glassed in in recent years, has added additional shelter from wind and weather, more particularly in winter.

To cope with increasing numbers of pupils and schools Miss Johns, in the latter part of her career, was provided with a series of assistants. From its early beginnings the interest and demand has mounted until at present roughly 30 schools send pupils regularly.

RECENT DEVELOPMENTS

In recent years there has been a succession of teachers, notably Mrs Anne Bean, Mrs Lisabel Hall and Miss Gisela Pahl, each of whom carried on and developed her ideas here in the best tradition.

With a revision and extension of school syllabuses, brought about by the Education Department, the more or less traditional, stodgy approach to nature and studies of nature has been brought up to date. The ideas of Miss Johns and the other teachers here have at last come to the fore: not merely 'nature', but the ideas of conservation of nature and natural resources.

In 1963, when the Golden Jubilee celebrations of Kirstenbosch were held, a new school building for accommodating the classes was promised. The realization was slow, but thanks to Professor Rycroft's agitations a new building has been completed. And none too soon either! For about the last six years the old building has been too small to give both working space and, on quite a few occasions, accommodation—besides which other educational activities are staged there.

An uncomfortable shortage of space and lack of 'days' on which classes can be booked have somewhat limited the admission of schools to regular lessons at Kirstenbosch. With the use of our new school, hopes for improving the present conditions are high.

In recent years we have developed an idea of a central theme when a class visits the school. Thus when a class comes to the school we present a lesson suited to the average age, standard and ability of the particular class. To name a few: *Birds at Kirstenbosch* (which also would be found elsewhere on the Peninsula); *Plants that do not flower*; *Table Mountain as a Natural Environment*; *Pollination.*

It is difficult to estimate what long-range effect on the pupils these classes have. For those who have an appreciation for the components of nature, it is hoped that there will be a quickening of interest; for those who are indifferent or not interested, a glimpse into a new world.

Children do not write formal examinations or tests on work done at Kirstenbosch, so the values operative can only be measured in terms of attitude towards nature and nature conservation. It is our hope that the attitude is a constructive one, reaching beyond school years, comprising an intelligent approach towards nature and natural sciences and technology.

PRESENT ADMINISTRATION AND ORGANIZATION

The present teachers (appointed in 1965 and 1966) realize that the teaching here is of a special order, where classroom instruction plays the smaller part and outdoor investigation the larger.

Teaching out of doors is difficult, for the attention of children is easily distracted by, for example, the antics and song of a bird, when the subject is entirely unrelated. If there is interest in the bird, we must somehow cater for it. The difficulty of keeping a class together, both mentally and physically, out of doors is also to be considered.

For these and other considerations large classes should be divided, for we believe that quality and not necessarily quantity is the key to success.

Whatever the criterion, there is quite enough work to keep both teachers fully occupied every day of the school term.

The bulk of teaching is done to Standards III, IV, V, but classes or groups of Sub-standards, Standards I and II, high school classes and students are occasionally taken.

With a high rainfall as contributing factor, Kirstenbosch is indeed an interesting place in which to teach, for if it should begin to rain, then the classes have to be conducted indoors. Accommodation of large classes on a day of continuous rain is a particular problem.

The school does not have a school committee, but falls directly under the Cape School Board. Schools at present attending are about 95 per cent English-medium schools. In response to a circular sent out there was a poor response from Afrikaans-medium schools.

[Since this article was written, the new nature study school building has been completed and is presently being used.]

(From a special report by Mr. J. J. de V. Jordaan and Miss J. van Reenen, teachers in charge.)

SAADLYS — 1971

Dit was in die verlede ons gebruik om die saadlys ens. aan lede te stuur of hul ledegelde betaal was of nie. As ledegelde twee jaar lank onbetaald bly, word hierdie name van die jongste lys verwyder. Baie lede het onder die indruk verkeer dat indien hulle hul saadlys, lidmaatskapskaart ens. ontvang het, hul ledegelde seker betaal is, terwyl dit nie werklik so was nie. Ten einde hierdie misverstand te vermy en ons met ander verenigings in ooreenstemming te bring, het die Raad van die Botaniese Vereniging van Suid-Afrika besluit dat die saadlys, lidmaatskapskaart en parkeerskyf van 1971 af aan lede gestuur sal word slegs nadat hul ledegelde ten volle betaal is. Die aanmanings sal dus vroeër as gewoonlik gepos word.

Hierdie beslissing raak nie dié lede wat buite die Republiek van Suid-Afrika woon nie.

Spring Flower Tour of Europe

D. Heesom

Anyone who has travelled by air is likely to remain on the mailing list of this airline or that travel agency for the rest of his days. Of course, most of the exciting-looking brochures go into the wastepaper basket firmly, if regretfully. But one which was different stopped us in our tracks. 'A Spring Flower Tour of Europe' in April/May 1968, it said, taking in eight countries—Italy, Germany, Sweden, Denmark, Holland, Belgium, France and England—all in a month. The leader of the tour would be Professor H. B. Rycroft. I think it was this last point which persuaded my wife and me that this was a trip we must not miss. The tour leader can make or break a tour, and not only did we both know Brian pretty well, but we knew that his expert knowledge would be invaluable wherever we went.

It was a disparate party that assembled at Jan Smuts Airport, all wearing the attractive little protea brooch which had been issued to each member of the tour. A counting of heads by Brian—a process with which we became very familiar —and we were off on the first leg to Rome. During the flight he made it his business to get to know everyone on the tour—not an easy business in the congested space of a VC.10—and in the early morning at the hotel in Rome he pleasantly but firmly laid down certain rules—the need for being punctual and keeping together as a party and so on. To keep the party reasonably together he had with him a whistle and a Kirstenbosch pennant to act as a rallying point.

For those who went on this tour mostly for sightseeing purposes, there was plenty to see in such famous tourist centres as Rome, Milan, Paris, Copenhagen, Amsterdam and London. They need no detailed mention here.

SPRING COLD

Primarily, however, this was a Spring Flower Tour, but spring does not come at the same time in Rome (42°N) as it does in Stockholm (60°N). We were too late for it in Rome, but conveniently for us it was several weeks early this year in Sweden. Spring weather can be uncertain too and we had more than our share of cold and wet. It was one of the coldest European springs for years, and although the ladies in the party were well prepared against the normal elements, they were quite unprepared for the icy blast *coming up from the floor* which accompanied the Danish professor's description of the arctic flora in the Icelandic House in Copenhagen's University Garden!

Day after day there was always something of botanical or floral interest on the programme. Thus at Herrenhausen, at Hanover, there are both the fabulous formal Royal Garden and the informal, charming, sprawling Berggarten—formerly the vegetable garden—across the road. One was as exciting as the other.

The formal garden at Herrenhausen is an astonishing place. This was the Palace of the Hanoverian Kings. They did themselves proud with gardens and the tradition has been maintained. It was at Herrenhausen, incidentally, that what was to become a feature of the tour first came into real prominence, for here we were met and conducted round by a party of senior botanists. One of these was the Professor of Botany at Hanover University who had been to South Africa for the 1963 Kirstenbosch 50th Anniversary Celebrations, another had spent six years at Stellenbosch and was still specializing on *Sparaxis*, a third was the Director of the Garden. We came to realize then, and later, of what value the 1963 tour had been in making botanical friendships, and the strength of the interest of European botanists in Cape flora particularly.

Wherever we went thereafter we were met by someone of equally high status, given V.I.P. treatment and, where there were secret doors, the key was always available, thanks to the care with which Brian Rycroft had built up and maintained his European contacts. Thus, at the Dahlem Gardens in West Berlin we were taken into a special house, closed to the general public, where the *Welwitschia* is housed. (Their male plant, incidentally, has been producing flowers annually since 1957, but the female has so far proved capricious.) This V.I.P. treatment lasted to the end of the tour, with Sir George Taylor, the Director, greeting us at Kew.

FAMOUS SWEDISH BOTANISTS

Naturally, there was a great deal of botany and this was particularly so in Stockholm and Uppsala, for of all the European nations none has taken greater interest in South African flora than the Swedes. The names Thunbergia, Sparrmannia, Bromelia, Retzia, Rudbeckia, Wahlenbergia, Tillandsia, Alstroemeria and others commemorate this association. Linnaeus himself never came to South Africa, but he knew our flora intimately. We were shown Thunberg's Herbarium, some of the leucospermum specimens having been updated only a few weeks previously by John Rourke of the Kirstenbosch staff. We went to the Hortus Bergianus, named after yet another famous Swedish botanist, Bergius, who wrote the first book on the Cape flora in 1772. In Uppsala we had a day's hero-worshippping of Linnaeus; we were shown where he worked and taught, his special garden where every plant's botanical name had the distinguishing 'L', his grave in the cathedral, and his summerhouse and herbarium some miles out at Linnes Hammarby.

There was high botany too in the University Botanical Gardens at Copenhagen, at Leiden in Holland, at the Botanical Gardens at Meise outside Brussels, and at Kew. To some the continual walking through seemingly endless glasshouses was too much of a good thing, especially as the plants, with their long botanical names, rarely seemed to be in flower. Outside in the open it was, of course, a very different affair, for it mattered not where you went, there were flowers and trees; in Milan where we saw our first tulips; the Villa Taranto with freesias, nemesias, magnolias, rhododendrons and camellias in bloom; in Stockholm where daffodils were in profusion, in Copenhagen, Amsterdam, Leiden and the rest of the way through to the acres of bluebells at Kew and the final glory of the Royal Horticultural Society's Garden at Wisley.

'WEEDS'

Sometimes we received a shock. In the University Garden at Copenhagen there was about an acre of gorgeous light-grey 'chinks', *Ornithogalum nutans*, which the local professor bluntly dismissed as a 'weed'. At the Villa Taranto likewise the Curator had called the beautiful Paulownia tree a weed. At Kew we were told about a Turkish rhododendron, *R. ponticum*, introduced in the eighteenth century, which had got completely out of hand on the coast of Argyllshire, forming an impenetrable mass 25 feet high and yards thick. So, much as we may curse the Hon. John Montagu for introducing the Australian acacias to the Cape, we must forgive him for not realizing what he might be doing. Did we see much South African flora? Yes, but in the raw it was rarely a thing of much beauty, such as the 10-foot (3 m) tall straggling and atypical *Protea cynaroides* at Villa Taranto. In its cultivated state our flora could be superb—for instance, the babianas, tritonias and ornithogalums at the Chelsea Flower Show. However, most of us seemed to be more interested in what Europe itself had to offer than in 'immigrants' from South Africa.

If, perhaps, you are thinking of doing one of these Flower Tours, prepare yourself for some pretty odd pronunciations on the Continent, where Scilla is pronounced 'skiller', where you meet asparágus and azaléa, and where anemones are pronounced 'annie-mones' as if they were near relatives of hormones.

I must finish as I began, with a tribute to Brian Rycroft, whose cheerfulness, unflappability and sense of humour were a constant source of admiration. Naturally, his knowledge of what we were seeing and whom we were meeting was profound and that 1963 Kirstenbosch Tour proved invaluable. Keen as he is on Kirstenbosch and its policy of growing only South African species, he regretted the fact that South Africa had no parallel institution where the species of other countries could also be grown. In Stockholm you have the Hortus Bergianus, in honour of Bergius, in Leiden the Hortus Clusianus, in honour of Clusius. If Brian's dream comes true, shall we have the Hortus Rycroftianus in South Africa one day?

(Article condensed from an account of the tour written by Mr. Heesom for private circulation.)

Book Reviews

GARDEN DESIGN ILLUSTRATED. By John A. Grant and Carol L. Grant. xii + 145 pages with 3 plates in full colour, 65 black-and-white plates and numerous plans and figures.
Seattle and London: University of Washington Press, 1968. Price R3.90.

The authors have covered their subject well by setting out the fundamental principles of landscape gardening in abundantly illustrated simple terms. The illustrations repeatedly clarify the numerous aspects of landscaping.

Just a mention of the history of landscaping introduces us to the two styles of the formal garden and the naturalistic or informal design. The latter was championed by such well-known landscape architects as Capability Brown and Gertrude Jekyll of whose teachings Mr and Mrs Grant are obviously great followers. The ability to realize and be aware of the potential of plant material in design is emphasized throughout. The relationships in colour, form, texture, shape, size and the role plants play in the naturalistic garden are compared. Mention is made of the ecological aspect of plants in the garden. This plays a most important role in the garden, for the whole success of landscaping, as Mr Grant states, is to relate the plant material to the site.

The illustrations coupled with the sketch-plans provide added explanations to the principles of design and how they are to be executed. The casual manner in which the authors have presented this book has enabled them to produce a work full of sound knowledge and suggestions which will undoubtedly prove well worth while to the horticulturist, garden enthusiast and student wherever they may be.

J. H. S. Winter

KAROO-PLANTRYKDOM/KAROO PLANT WEALTH. By N. K. Hobson, J. P. Jessop, M. C. v. d. R. Ginn. Pearston publications 1970.

This excellent booklet, designed for the use of the farmers of the Karoo will be of great interest and use to all those interested in the plants of the veld. It gives the scientific and common names of many Karoo plants eaten by stock, their nutritive value, resistance to cropping and drought and from many of them an assessment of their ability to grow from seed in this harsh land. The coloured illustrations make them easy of identification, while the introductory notes and explanation of the Latin terms will be interesting to those of scholarly bent.

The book is of pocket size with a plastic dust-cover, making it easy to carry about. The authors and publishers are to be congratulated on the production of a valuable addition to the literature of our native flora. I hope it will be followed by many such handbooks.

T. K. Green

The Botanical Society of South Africa

ANNUAL REPORT

FOR THE YEAR ENDING 31 DECEMBER, 1969

The Council of the Botanical Society of South Africa has pleasure in presenting its fifty-sixth Annual Report for the year ending 31 December 1969.

MEMBERSHIP

A welcome was extended to 647 new members. If we include 164 members of the Botanic Society of Natal (54 of whom were Life Members of this Society and were granted Life Membership of our Society), the total is of 811. These were: Life: 6; Corporate: 6; Family: 90; Ordinary: 492; Associate: 53. Deaths and resignations offset this number by 312, while 227 names were removed from the roll, being two years in arrears with their subscriptions. The net gain in membership was, therefore, 272.

For the interest of members, it is mentioned that the Botanic Society of Natal, which was established nearly a hundred years ago and existed primarily for the support of the Natal Botanic Garden at Pietermaritzburg, is soon to disband on account of this Garden having now come under the control of the National Botanic Gardens of South Africa.

In recognition of the support given towards this Garden, the Council of the Botanical Society of South Africa offered members of the Botanic Society of Natal full benefits of our membership from September until the end of the current year. A letter, inviting these members to become members of our Society, was sent during this same month. It is hoped that a Branch of the Society will soon be established in Pietermaritzburg.

FINANCIAL

Subscriptions received totalled R26,120.25, which includes Corporate R1,444.30, Family R6,161.85, Ordinary R17,149.25, Associate Members R1,364.85. Donations received totalled R1,012.00, Interest on Investment R1,151.75, plus Preference Share Dividends R15.00 and Journal advertisements R203.86. Expenditure items totalled R10,545.73, which includes contributions to Branch expenses, leaving a surplus for the year of R17,957.13, which constitutes the record Grant to the National Botanic Gardens for 1969. This amount is the highest Grant ever paid to Kirstenbosch.

MEETINGS OF THE SOCIETY

Saturday, 11 January—The Lawn, Kirstenbosch, Special Gathering for Visiting Members. Members were welcomed by the President, Mr D. R. D'Ewes.

Tuesday, 4 February—An address on Nature Conservation, by Dr D. Hey, Director of Nature Conservation.

Tuesday, 11 March—Annual General Meeting, followed by an illustrated lecture 'Ericas of the South Western Cape', by Mr S. W. Chater.

Tuesday, 15 April—'Flora of Colorado and Mexico, with stops en route', an illustrated lecture by Prof. W. P. U. Jackson.

Tuesday, 6 May—'Some interesting facts of plants and their names', by Mr Frank Stayner, illustrated with colour-slides.

Saturday, 14 June—Annual Visit to Karoo Botanic Garden to see the Aloes.

Saturday, 22 July—Annual Visit to Betty's Bay to see the Ericas at Harold Porter Botanic Garden.

Saturday, 23 August—Visit to Hortus Botanicus, Stellenbosch, followed by a visit to a private Reserve at Simonsberg.

Saturday and Sunday, 20 and 21 September—Wild Flower Show.

Saturday, 4 October—Annual Spring Gathering—The Lawn, Kirstenbosch.

Tuesday, 4 November—A lecture by Prof. H. B. Rycroft on the developments at Kirstenbosch and the regional Gardens.

Saturday, 6 December—Visit to Table Mountain via the Cable Way, followed by a walk along the Pipe Track.

ESTABLISHMENT OF BRANCH AT BLOEMFONTEIN

The Secretary, together with Professor H. B. Rycroft, attended a meeting in Bloemfontein during April, when a steering committee was formed to establish a branch of the Society at Bloemfontein.

During this visit, Professor Rycroft gave a lecture to members on 'The Green Gold of the O.F.S.'

The inaugural meeting was held on 17 October, in the National Museum Lecture Hall. Following the business of the meeting, during which a Branch Committee was formed, two films were shown on the Kirstenbosch Jubilee and on Nature Conservation. The committee has since arranged a programme of meetings for the forthcoming year.

HARRISMITH BRANCH

During her April visit to Bloemfontein, the Secretary was able to attend a meeting of the Harrismith Branch, when Professor Rycroft addressed members on recent developments and showed slides on the various Regional Gardens.

JOHANNESBURG BRANCH

The Secretary was privileged to attend a meeting of the Johannesburg Branch in October, when Mr John Rourke gave an outstanding lecture on Leucospermums.

OFFICE-BEARERS 1969

The following office-bearers were elected to serve on the Botanical Society's Council:

President: Mr D. R. D'Ewes

Vice-Presidents:
Prof. R. H. Compton
Prof. H. B. Rycroft
Dr Margaret R. Levyns

Council:

Mr M. G. Botha
Prof. W. P. U. Jackson
Prof. P. G. Jordaan
Mr G. J. E. Matthaei
Mr J. Minnitt
Prof. E. A. Schelpe
Prof. F. L. Warren
Mr L. J. Hill
Miss M. E. Johns
Prof. W. J. Lutjeharms
Mr W. J. Middelmann
Miss Q. V. Paine
Mr F. C. Sawkins

Mr D. Heesom and Mr Hugh Taylor were elected at the first meeting of Council and Mr M. G. Botha was unanimously re-elected Chairman at this meeting.

JOURNAL

Part 55, 1969, was printed in April and was despatched to all members, universities and libraries, etc.

THANKS

We extend our gratitude to our President, Vice-Presidents, members of Council and all who have assisted us during the year. Special thanks are due to the Director of National Botanic Gardens, Prof. H. B. Rycroft and his staff for their kind co-operation throughout the year. The helpful assistance of Miss M. E. Johns and Mr F. C. Sawkins is gratefully remembered. The Council expresses its appreciation to all the lecturers for giving their valuable time in the Society's interests.

M. G. BOTHA, CHAIRMAN OF COUNCIL

(MISS) J. HARVEY, SECRETARY/TREASURER

Wild Flowers Protection Section Committee

ANNUAL REPORT

FOR THE YEAR ENDED 31 DECEMBER, 1969

INCOME FOR THE YEAR

Subscriptions received totalled R2,347.92, Interest received on Investments R433.31, Provincial Grant R300.00. Expenditure for the year totalled R1,159.42.

WILD FLOWER SHOW—20–21 SEPTEMBER

Professor J. N. de Villiers, now the Rector of Stellenbosch University, kindly performed the official opening on the Lawn at Kirstenbosch. A total number of 461 exhibits were displayed. Although weather conditions during the year were somewhat unfavourable and despite the water restrictions imposed on gardeners, the general opinion was that this was one of the best Shows we have had.

ADVISORY COMMITTEE MEETING FOR NATURE CONSERVATION

This conference, held on 21 and 22 August, was attended by Professor H. B. Rycroft, who represented the Society and he was accompanied by Miss Harvey, who attended as an observer. Salient matters discussed at this meeting were:

WILD FLOWERS TO BE CUT, NOT BROKEN

The Department of Nature Conservation's view was that it should be made imperative in the Wild Flowers Protection Ordinance that wild flowers picked for sale must be cut and not broken off. The Committee recommended that a draft proposal be made for consideration at the next year's meeting.

ALL INDIGENOUS PLANTS TO BE PROTECTED

Arising from a recommendation at the previous year's conference that all indigenous plants be protected, this matter was again discussed. The Committee finally recommended that this matter be held over until next year and that a botanist in the Department of Nature Conservation should draw up a comprehensive list of exclusions in consultation with Professor Rycroft, The South African Wild Flower Growers' Association and Universities of Cape Town and Stellenbosch.

SEED COLLECTION UNDER PERMIT BY REGISTERED NURSERYMEN—
LIST OF INDIGENOUS PLANTS FOR WHICH NO PERMIT SHOULD BE NECESSARY

The Committee recommended that a list of seed that could be collected should also receive the attention of the Senior Nature Conservation Officer.

ALIEN VEGETATION

Prof. Rycroft mentioned the question of eradication of alien vegetation and the Chairman informed the meeting that approximately R50,000 per year was spent for this purpose.

ALIEN VEGETATION HACK AT SILVERMINE RESERVE

A hack, organized by the Society, was held during May at the Silvermine Reserve and was led by Professor Rycroft. This hack was organized primarily as an expression of goodwill and members who participated in this concentrated solely on removing young Pine trees in this Reserve.

ALIEN PLANTS AT KIRSTENBOSCH

In response to an account given by the Chief Curator of the National Botanic Gardens at a meeting of the Society held in November, one enthusiastic member has offered to sponsor the cost of extra labour for the purpose of eradicating alien plants at Kirstenbosch. It is hoped that other members will be encouraged to respond accordingly and this matter will be fully discussed by the Committee.

REPRINT ON PEST PLANTS AND NATURE CONSERVATION

An article on Pest-Plants and Nature Conservation in the Winter Rainfall Region, by Mr H. C. Taylor, which was printed in the 1969 Journal, has been reprinted for distribution with the object of giving greater publicity to this vital question of eradicating alien plants.

NEW PUBLICATION

This new publication, which is aimed at reaching a wider public, as well as schools and other educational institutions, has been discussed several times at various meetings during the year. It is planned that the first issue will be printed by September 1970 and thereafter a bi-annual issue is envisaged.

BURSARY

Little response has been received to the offer of this scholarship of R500.00 for research in plant ecology. It is, however, hoped that wider publicity will result in a suitable candidate being found.

KOGELBERG BURNING

The matter of the burning at Kogelberg during the month of December was discussed at the final committee meeting of the year and the Secretary was asked to approach the authorities for information on the aspect of plant regeneration after fire.

JUDGING CRITERIA

A special committee was formed to discuss the matter of deciding upon definite judging criteria for use at the Botanical Society's shows. After finality has been reached, the Committee's recommendations will be publicized in the Society's Journal.

OFFICE-BEARERS

The following members were elected to this Committee:

Mrs Enid du Plessis
Miss M. E. Johns
Mr G. J. E. Matthaei
Prof. H. B. Rycroft
Mr F. Watermeyer
Mr D. Heesom
Mrs A. MacKenzie
Mr W. J. Middelmann
Mr F. C. Sawkins
Mr D. Woods

Owing to increased pressure of work, Professor Rycroft expressed his regret at being unable to continue as Chairman of this Committee.

Mr F. C. Sawkins was unanimously elected Chairman at the first meeting.

We express our sincere appreciation towards all who have assisted us during the year; to the curator and horticulturists who were responsible for the landscape exhibit at our Show, the Curator and Staff of the Compton Herbarium for their valued help in naming the specimens at the Show; also to the Information Officer of the National Botanic Gardens for her assistance and advice regarding the new publication. The Department of Nature Conservation is also thanked for their co-operation in arranging a conservation display at our Show.

F. C. Sawkins, Chairman

(Miss) J. Harvey, Secretary/Treasurer

The Botanical Society of South Africa Johannesburg Branch

ANNUAL GENERAL MEETING HELD ON TUESDAY, 24 FEBRUARY 1970

CHAIRMAN'S REPORT

It is quite a long time since we had an annual general meeting, as there was none during 1969. We felt that November was not a good time to hold an A.G.M. and applied for permission from Cape Town to hold our Annual General Meeting in February of each year. This was granted and so it is that we are now holding our Annual General Meeting tonight and can review the meetings held during 1969. These were all held in this hall, the Dorothy Susskind Auditorium of the University of the Witwatersrand.

Our first meeting of 1969 took place on 4 March, when Dr D. J. B. Killick, who is in charge of the research team dealing with the flora of South Africa, attached to the National Herbarium in Pretoria, gave us a talk on 'The Flora of the Natal Drakensberg'. His talk was fully illustrated with some very excellent recent slides, which were most informative as well as extremely beautiful.

On 15 April, Dr Maria G. Breyer-Brandwijk gave us a talk on 'The Medicinal and Poisonous Plants of Southern Africa'. She is the co-author with Dr J. M. Watt of the book of this title, which was first printed in 1932. She has now rewritten and enlarged the book tremendously and it remains the standard authoritative work on this interesting subject. Dr Breyer-Brandwijk had a great deal to tell us and it was truly difficult to condense her vast knowledge of the subject into the time allotted.

Mr R. M. Roberts came up from Pondoland to give us a talk on 27 May. He is an agricultural extension officer, seconded to the Transkeian Government, with headquarters in Umtata. His talk, 'A Tour of Pondoland and some of its Indigenous Flora', was illustrated by magnificent colour slides, not only of the flora, but also of the wonderful mountain scenery of the Transkei coast. In fact, our members were so inspired by his illustrated talk that we tried to plan a tour to Pondoland and Mr Roberts kindly sent us a suggested itinerary, but there was not enough time available on any of the long week-ends to plan this tour for the members. We feel sure he will be willing to assist any individuals who want to visit Pondoland on their own in the future.

On 19 August, Dr O. Kerfoot, who is Senior Lecturer in Ecology in the Department of Botany at the University of the Witwatersrand, gave us a talk entitled 'The Floras of Isolated Mountains and their Role in the Evolution of Plants in Southern Africa'. He illustrated his talk with coloured slides and gave us a very erudite lecture on a subject which is little known to the average plant-lover. It inspired botanically-minded members to try to learn something about the problems of ecology.

The fifth and final talk of 1969 took place on 21 October and was given by Mr J. P. Rourke, who flew up from Cape Town for the occasion. He is a plant taxonomist on the staff of the Compton Herbarium at Kirstenbosch and is actively engaged in completing a monograph on Leucospermums. He saddened many knowledgeable amateurs by telling us of the various changes in nomenclature of Leucospermums that would have to be published, but this is something that we must all tolerate and assimilate in the pursuit of further knowledge. His talk was illustrated by colour-slides. It is interesting to note how most plant-lovers become good photographers in following their hobby, and we were treated during the year to some first-class colour slides that were really beautiful.

During 1969, we appointed a new secretary-treasurer, Mrs S. Dambe, who has proved herself to be most active and helpful in the affairs of the Society and kept our records in an excellent manner. We were sorry to lose Mrs Van der Merwe, who had been compelled to relinquish this position on account of her husband's illness, and we expressed our appreciation of what she had done for the Society at the beginning of last year.

Head Office of the Botanical Society suggested that we change our name from 'The Transvaal Branch' to 'The Johannesburg Branch of the Botanical Society of South Africa'. Our members gave their formal approval of this new title and we followed the regular procedure for a change in the Constitution which requires that we finally ratify this tonight at our Annual General Meeeting.

The extent of the membership is stated to be Johannesburg and greater Johannesburg, such as the towns of Randburg and Sandton. The change in name does not preclude anyone from attending our meetings, as we are accustomed to having members from Sasolburg, Krugersdorp and Pretoria coming to our meetings. We are, therefore, continuing to send notices of meetings to all Transvaal members in the hope that even those who are far afield will arrange to attend our meetings if they coincide with their visits to Johannesburg. This means that even if new branches are formed in places like Pretoria, we are still happy to welcome any members of the Botanical Society and their friends to our meetings in Johannesburg. The small extra amount that is spent in sending out the notices will be, we feel, well spent in this manner.

I should like to thank Mr W. H. Nichols, our auditor, for doing our books for us and I shall have pleasure in asking him to read the balance sheet shortly.

The Committee held several meetings during the year and arranged to obtain lecturers well in advance. The excellent attendances at our meetings bear witness to the popularity of the lecturers we have been able to attract. Our payment of the airfare of at least one lecturer each year has made it possible to invite lecturers from distant parts and so add to the variety of people who have been able to speak to us. The presentation of a small honorarium to every lecturer has given us great pleasure. We wish that we could increase this in the future, so that they could buy themselves a memorable souvenir, as a token of our sincere appreciation of their precious time spent for our enjoyment.

A question was asked of our Secretary by Professor Rycroft during her recent visit to the Cape regarding the progress of the Botanic Garden for Johannesburg. As this Society was vitally interested in the formation of the Botanic Garden, wherein it was hoped to have the opportunity to study South African wild flowers and hold meetings etc., it would not be out of place to give this report here.

As you are already aware, the Johannesburg City Council decided to form and administer a Botanic Garden in Johannesburg on the lines suggested to it several years ago, as from July 1969. Your Chairman spoke recently to Dr. Van der Merwe, General Manager of the Parks and Recreation Department of the Johannesburg Municipality, and was given the following facts.

The municipality is spending from R10,000 to R15,000, as from July 1969 to June 1970, on the Botanic Garden. Up to this date, an aerial survey has been made of the 250–300 acres set aside for the Botanic Garden in Emmarentia. A water feature has been developed in the area between the Emmarentia Dam and the John Mackenzie Drive. Mr Stewart, on the staff of the municipality, is busy on a general basic key plan. As soon as this is completed he will contact the Chairman of the Johannesburg Botanic Garden Society—myself—who will advise the Committee of this Society, formed in 1968, which consists in all of 7 members. The other members are Dr Jeppe (Deputy Chairman), Mrs Peschel, Mr Bishenden, Dr Berry, Mr Carr, Mr Ford and Mr Nicholls our Secretary-Treasurer and Auditor. We intend to lend our support to the municipality in every way and try to participate in the planning and establishment of the Botanic Garden. We hope, in the future, to hold meetings in the Botanic Garden and interest private citizens and scientific institutions in its welfare, helping to publicize its activities.

Up to the present time no special superintendent has been appointed for the Botanic Garden, but Mr Borthwick, of the Parks Department, is in immediate charge. Contact has been established with other Botanic Gardens all over the world and seed has been collected and grown at the Municipal Nurseries at Huddle Park.

I should like to suggest that members of this Society who have access to interesting seed and plants try to make this available to the municipality for use in the Botanic Garden. The seedlings of today will be the interesting specimens of the future. It is to be hoped that the development of the Botanic Garden in Johannesburg will make of the Botanical Society an even more active and stimulating society than it is already and that it will give great pleasure to the plant-lovers of our city as well as to our visitors from other parts of South Africa and overseas.

S. Eliovson

THE BOTANICAL SOCIETY

BALANCE SHEET AS AT

			R c
Life Membership Fund			11,415.16
Balance 1/1/1969		10,571.02	
Add: Amounts received		844.14	
Reserve Fund			800.00
Mrs W. Hall Memorial Fund			191.75
National Botanical Gardens			17,957.13
Provision for Grant for the year ended 31/12/1969			
Subscriptions Paid in Advance			14.00
			30,378.04
Wild Flower Protection Section			6,437.40
Balance 1/1/1969		4,513.59	
Ordinary Subscriptions received during 1969		2,347.92	
Interest received		435.31	
Grant – Provincial Administration		300.00	
		7,596.82	
Less: Expenditure for the year		1,159.42	
			36,815.44
Book Fund Trust Section			3,927.29
Balance 1/1/1969		4,183.39	
Add: Stock of Books 31/12/1969		3,175.79	
Sales of Books		510.00	
		7,869.18	
Less: Audit Fee	25.00		
Stock of Books 1/1/1969	3,571.89		
Transfer to National Botanical Gardens	345.00	3,941.89	
			R40,742.73

Referred to in our Report of even date
CAPE TOWN 16th February, 1970

OF SOUTH AFRICA

31st DECEMBER, 1969

			R c
Investments			22,106.00
1. Fixed Deposits, Indefinite Period			
Paid-up Shares and Local Registered Stock		13,790.00	
2. 5% Cumulative Preference Shares		600.00	
3. Savings Accounts		7,716.00	
Office Equipment			58.00
Balance 1/1/1969		65.00	
Less: Depreciation for the year		7.00	
Current Assets			8,214.04
Current Account with Standard Bank of S.A. Limited		7,436.86	
Cash on Hand		46.80	
Wild Flower Protection Section		1,033.38	
		8,517.04	
Less: Liabilities		303.00	
			30,378.04
Wild Flower Protection Section			6,437.40
Investments		6,655.84	
1. Fixed Deposits	5,530.85		
2. Savings Account	1,124.99		
Equipment		794.00	
Balance 1/1/1969	882.00		
Less: Depreciation for the year	88.00		
Cash on Hand		20.94	
		7,470.78	
Less: Amount due to General Account		1,033.38	
			36,815.44
Book Fund Trust Section			3,927.29
Stock of Books Held by Juta & Co. Ltd.			
Per Treasurer's Valuation		3,175.79	
Post Office Savings Bank		163.37	
Savings Account No. 5660			
Cash		75.13	
Current Account at Standard Bank of S.A. Limited	52.33		
On Hand	22.80		
Juta & Company Limited		510.00	
Amount Due by General Account		28.00	
		3,952.29	
Less: Liability		25.00	
			R40,742.73

Signed R. M. JOUBERT & COMPANY
Chartered Accountants (S.A.), *Auditors*

THE BOTANICAL SOCIETY OF SOUTH AFRICA

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1969

1968 R			R c
1,345	General Administration Expenses		2,104.20
200	Audit Fees		275.00
3,426	Salaries		3,800.16
177	Contributions to Pension Fund		165.00
136	Bank Charges		195.23
5,677	Stationery and Printing		3,544.14
485	Contributions to Branch Expenses		445.00
	Harrismith	60.00	
	Johannesburg	385.00	
170	Loss on Sale of Addressograph		—
7	Depreciation—Equipment		7.00
—	Donation to S.A. Association for the Advancement of Science		10.00
12,222	Surplus for the year		17,957.13
23,845			R28,502.86

1968 R			R c
	Subscriptions:		26,120.25
4,834	Family Members	6,161.85	
13,352	Ordinary Members	17,149.25	
1,119	Associate Members	1,364.85	
1,115	Corporate Members	1,444.30	
250	Contributions by Patrons		—
1,409	Donations		1,012.00
1,421	Interest on Investments		1,151.75
15	Preference Share Dividends		15.00
330	Journal Advertisements Recovered		203.86
23,845			R28,502.86

We have to report that we have examined the attached Balance Sheet, and Income and Expenditure Account, with the books and vouchers of the Society, and have obtained all the information and explanations we have required. We are satisfied that the securities are in existence, and that the Society has kept proper books and accounts.

We are of opinion that such Balance Sheet is properly drawn up so as to exhibit a true and fair view of the state of the Society's affairs at 31st December, 1969, according to the best of our knowledge and the explanations given to us, and as shown by the books of the Society.

We are also of opinion that the attached Income and Expenditure account gives a true and fair view of the Surplus for the year ended 31st December, 1969.

Signed R. M. JOUBERT & CO.
Chartered Accountants (S.A.), *Auditors*

CAPE TOWN
16th February, 1970

Die Botaniese Vereniging van Suid-Afrika Drakensberg en Oos-Vrystaatse Tak

ADRES VAN DIE VOORSITTER
OP 12 NOVEMBER 1969

Op 27 Augustus 1964 is 'n tak van die Botaniese Vereniging van Suid-Afrika hier te Harrismith gestig. Aangesien daar toentertyd nog geen takke van die Sentrale Vereniging was nie, was dit 'n groot prestasie vir Harrismith. Kort daarna is 'n Transvaalse tak te Johannesburg gestig en heel onlangs—op 24 Oktober—ook een te Bloemfontein.

Die vooruitsig van 'n Nasionale Botaniese gebied was die dryfkrag agter die stigting van die plaaslike tak. Die ideaal is verwesenlik na 'n veelbewoë tyd van onderhoude, besprekings, terugslae, selfs 'n petisie by 'n Provinsiale Raadsitting! Op 18 Mei 1967, het prof H. B. Rycroft, direkteur van Nasionale Botaniese Tuine van Suid-Afrika, die plaaslike onderneming amptelik van stapel gestuur. Weer eens is geskiedenis gemaak want dit was die eerste sodanige tuin buite die Kaapprovinsie. Ons plaaslike vereniging is trots op sy aandeel in die totstandkoming en hoop om dit tot in die verre toekoms hulp en bystand te verleen.

Intussen het die vereniging goeie vordering gemaak met sy doelstellings, naamlik om die publiek te laat belang stel in inheemse plante en die Natuur en in die besonder in die inheemse plante en natuurskoon van die Vrystaatse Hooglande. Lesings, toegelig met kleurskyfies was deurgaans goed ondersteun en uiters interessant. Uitstappies het minder persone gelok maar was sonder uitsondering baie aangenaam en leersaam. Die hoop beskaam nie en die vereniging sal juis werk om groter belangstelling in die veld en berge, die natuurskoon en plantegroei gaande te maak.

Gedurende Desember 1969 was 'n besoek aan „Little Switzerland" 'n hele openbaring wat betref die reuse bome van die byna ondeurdringbare oerwoude teen die berghang net 'n hanetree van die gebou af. Die uittog na „Meyer's Geluk", die Du Plessis-plaas naby Van Reenen, waar plante, fossiele en die pragtige waterval besigtig is, was eweneens die moeite werd. Dan was daar nog 'n rustige bestyging van Platberg op 10 Mei vanjaar. Met die onvergelykbare uitsigte loon al die paar ure weg van die huis.

Die hoogtepunt vir die jaar sou 'n besoek van lede van die Vrystaatse Natuurbewaringvereniging van Bloemfontein wees, gedurende die Oktober lang naweek. Die verlangde minimum van 12 persone kon egter nie gevind word nie en die besoek moes afgelas word.

'n Gebeurtenis van belang hierdie jaar was die verskuiwing van die Botaniese Tuin van „Queen's Hill" na die waterwerkegebied. Hieroor het prof. Rycroft die publiek op 15 April ingelig. Hy het ook pragtige kleurskyfies vertoon. Die

banke wat vir die tuin deur die vereniging aangekoop is, is na die nuwe terrein verskuif.

Branch activities during the year were ably and enthusiastically carried through by the Branch Secretary, Mr A. v. d. Zeyde. He now has 42 paid-up members on his list, but his mailing list includes a number of friends of the Society. Perhaps he has kept count of the number of notices sent out, of the posters made and sent out by him and of the hours spent on minutes, reports and correspondence! He also keeps records of all activities by means of newspaper clippings. I wish to thank him on behalf of the executive, the members and the public and also personally. This is selfless service at its best, and I appeal to you all to reciprocate by giving your full support to this society. Please take part regularly, bring your friends and especially your children, who must in their turn take responsibility for stemming the tide of nature desecration.

Please make time for outings which are not too strenuous even for the aged. Get to know and love your own countryside. It is still open to you. A hearty thank you to all those who have in fact found time to take part.

A vote of thanks to the executive members who assisted in many ways. A very special thank you for Mrs Bessie de Beer, our tea-convener.

Finances are in the competent hands of Miss Flo. Hawkins. Presently, from her financial report, you will learn that modest capital does grow. Another street-sale is scheduled for 15 November. I wish to appeal for support and donations, as a substantial gift to the gardens would be most fitting when the official opening takes place in the not too distant future.

Vir die jaar wat voorlê word die volgende in die vooruitsig gestel:

1. Op 'n Saterdag in Desember 'n besoek aan die Botaniese Tuin om te sien wat reeds gedoen is en te hoor wat die toekoms inhou. Almal sal die voorreg hê om onder die toesig van die kurator, mnr A. van der Zeyde, inheemse plante in die Botaniese Verenigingakker te plant.
2. 'n Ambisieuse skema is 'n besoek aan die Botaniese Tuin en Nasionale Museum te Bloemfontein.
3. 'n Blommetentoonstelling in samewerking met die plaaslike Tuinbouvereniging vroeg in Februarie 1970.
4. Besoeke van lede van die Natuurbewaringsvereniging, die Bomegenootskap, Voëlkenners en Bergklimmers. Uitstappies, na bv. Kerkenberg, 'n wildplaas en ander besienswaardige plekke sou dan gereël kan word.
5. Leersame lesings en skyfievertonings.

And now it is most fitting that we have Mr Trauseld with us tonight. This Society is now five years old and Mr Trauseld was responsible for the slide-show at our inaugural meeting. We still remember those wonderful slides and we are greatly honoured to welcome Mr Trauseld here again. He has since taken thousands of colour-slides and made a most extensive study of the Drakensberg flora.

We look forward to a slide-show as the first step towards a new and wonderful botanical year.

MRS M. L. JACOBSZ

PUBLICATIONS ON SALE AT KIRSTENBOSCH

The following may be obtained by application, enclosing payment of 10 cents each, to the Secretary, The Botanical Society of South Africa, Kirstenbosch, Newlands, C.P., South Africa. Prices include postage.

General Hints on Raising Indigenous Plants from Seed: H. F. Werner.
Algemene Wenke oor die Kweek van Inheemse Plante van Saad: H. F. Werner.
S.A. Proteaceae and Their Cultivation: H. F. Werner.
S.A. Proteaceae en Hul Teelt: H. F. Werner.
The Cultivation of the Proteaceae: Marie M. Vogts.
Growing Proteaceae in the Summer-rainfall Area: Marie Vogts.
Propagation and Cultivation of Proteas and Heaths: H. F. Werner.
Growing S.A. Proteaceae in New Zealand: W. R. Stevens.
The Behaviour of some S.A. Proteaceae in New Zealand: W. R. Stevens.
The Propagation of Succulents from Seeds and Cuttings: H. Hall.
Notes on some rare Stapelias from Namaqualand: H. Hall.
Gasteria—A Problem Genus of S.A. Succulent Plants: E. A. Schelpe.
Namaqualand, A Botanical Wonderland: H. Hall.
Some S.A. Biennials and near-Biennials and their Cultivation: H. F. Werner.
Some S.A. Herbaceous Perennials and their Cultivation: H. F. Werner.
Growing Cape Bulbs in the Summer-rainfall Area: Sima Eliovson.
Some Cultural Notes on Disa Uniflora: G. M. L. Feinauer.
Notes on Streptocarpus and its Cultivation: H. B. Rycroft and G. M. L. Feinauer.
South African Epiphytic Orchids I: E. A. Schelpe.
South African Epiphytic Orchids II: E. A. Schelpe.
The Gymnosperms at Kirstenbosch: Enid P. du Plessis.
Die Gymnospermae te Kirstenbosch: Enid P. du Plessis.
The Botany of Basutoland: A. Jacot Guillarmod.
The Botany of Swaziland: R. H. Compton.
The Green Cancers in South Africa: Alien Vegetation.
Die Kankerbosse van Suid-Afrika—Uitheemse Plantegroei.
Ursinia geyeri—With some Notes on its Cultivation at Kirstenbosch: H. Hall.
Progress in the Study of the Silver Tree Disease: D. Olivier.
Pelargonium—A S.A. Contribution to World Gardens: F. M. Leighton.
Seaweeds: W. E. Isaac.
Plants of Land and Sea: W. E. Isaac.
Plant Names and their Origin: M. R. Levyns.
Birds of the National Botanic Gardens of S.A.: G. J. Broekhuysen.
Saving our Flora: H. B. Rycroft.
The National Botanic Gardens of S.A.: R. H. Compton.
Three Hundred Years of Trees—Past and Future: R. H. Compton.
The Wilds: Gwen Edwards.
The Cultivation of Buchu: H. F. Werner.

The Melville Koppies Nature Reserve, Johannesburg: Annabelle Lucas.
Welwitschia bainesii (Hook f.) Carr.: Wim J. Tijmens.
Mist Propagation at Kirstenbosch: J. H. S. Winter.
Some South African Perennials for the Garden: J. H. S. Winter.
Pest Plants and Nature Conservation in the Winter Rainfall Region: H. C. Taylor.

OBJECTS

1. The promotion of the interests of the National Botanic Gardens of South Africa established under the Trustees of the National Botanic Gardens of South Africa.
2. The preservation of the native flora of South Africa. The Society therefore endeavours:
    - (*a*) To encourage the people of South Africa and other countries in the progress and development of the National Botanic Gardens of South Africa at Kirstenbosch, and any other Garden that may be established by the Trustees of the said National Botanic Gardens of South Africa.
    - (*b*) To augment the Government and other grants towards developing, improving and maintaining the National Botanic Gardens of South Africa at Kirstenbosch and any Garden referred to in the preceding subsection.
    - (*c*) To organize shows at which may be displayed the results of botanical experiments of cultural skill in improving the different varieties of South African flora.
    - (*d*) To enlighten and instruct on botanical subjects by means of meetings, lectures and conferences and by the distribution of literature.
    - (*e*) To promote the preservation of the native flora of South Africa, to encourage public interest in it, and to co-operate with the Public Authorities and others in the attainment of this object.

FOUNDED 10 JUNE 1913

President: Mr DUDLEY R. D'EWES
Vice-Presidents: Professor R. H. COMPTON, Professor H. B. RYCROFT,
Dr MARGARET R. LEVYNS
Chairman of Council: Mr M. G. BOTHA
Secretary and Treasurer: Miss J. HARVEY

Council:
Mr M. G. Botha
Mr L. J. Hill
Prof. W. P. U. Jackson
Miss M. E. Johns
Prof. P. G. Jordaan
Prof. W. J. Lutjeharms
Mr W. J. Middelmann
Mr J. Minnitt
Miss Q. V. Paine
Mr F. C. Sawkins
Prof. E. A. C. L. E. Schelpe
Prof. F. L. Warren
Mr E. G. H. Oliver
Mr H. C. Taylor

Terms of Membership:

Benefactors, subscribing not less than R1,000 over a period of two years or less.

Patrons, subscribing not less than R250 in one payment.

Life Members, subscribing not less than R75 in one payment. (Not open to municipalities, societies, etc.)

Corporate Members, subscribing not less than R15 per annum.

Family Members, subscribing not less than R7 per annum.

Ordinary Members, subscribing not less than R4 per annum.

Associate Members, subscribing not less than R2 per annum and being resident in the Republic of South Africa, S.W.A., Rhodesia and African Territories only.

(Life Membership is open to Family and Ordinary Members of twenty years' standing for one payment of R25.)

Associate Members enjoy all the privileges of Membership, except that they do not vote at any of the Society's Meetings and are not entitled to share in the free distribution of seed.

Honorary Members may be elected at a Meeting of the Society on the nomination of the Council.

All members, except associate members, have the privilege of sharing in the free distribution of surplus seed from the National Botanic Gardens, on application on the form provided with the Seedlist.

The number of seeds obtainable each year is as follows:

Benefactors	50 packets
Patrons	35 packets
Life Members	15 packets
Corporate Members	35 packets
Family Members	25 packets
Ordinary Members	15 packets

Members who wish to support the Wild Flowers Protection Section of the Society may give an annual subscription of 75c per annum in addition to the subscription for the class to which they belong. Those wishing to become Members of the Society are invited to communicate with the Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, C.P.

The Journal of the Botanical Society, published annually, is sent free to every member.

THE BOTANICAL SOCIETY OF SOUTH AFRICA

LIST OF MEMBERS

as at 31st March 1970

In case of any inaccuracy in the following list it is requested that notification should be made to the Secretary, Botanical Society of South Africa, Kirstenbosch, Newlands, C.P., South Africa.

HONORARY LIFE MEMBERS

Mr T. K. Alison—Natal
Professor A. W. Bayer—Natal
Dr H. M. L. Bolus—Cape Province
Professor R. H. Compton—Swaziland
Miss E. M. Dixie—Cape Province
Dr R. A. Dyer—Transvaal
Miss M. E. Johns—Cape Province
Dr M. R. Levyns—Cape Province
Miss B. Martin—Cape Province
Mrs A. J. M. Middlemost—Cape Province
Mrs E. E. Pearson—England
Mrs O. M. Porter—Natal
Professor H. B. Rycroft—Cape Province

BENEFACTORS

Miss Maude Bower—Cape Province
Miss Q. V. Paine—Cape Province
Mrs Y. Parfitt—Cape Province
Mr A. Porter—Transvaal
Mrs O. M. Porter—Natal

PATRONS

Dr H. W. Archer—Cape Province
Dr Busson—France
Federale Volksbeleggings Beperk—Kaapprovinsie
Mr Clifford Harris—Cape Province
Interflora African Areas Limited—Transvaal
Lewis Stores Limited—Cape Province
Phil Morkel Limited—Transvaal
Dr P. G. S. Neethling—Cape Province
Mrs David Rockefeller—United States of America
S.A.N.L.A.M.—Cape Province
Mr Toshihiko Satake—Japan
Lord Sieff of Brimpton—England
Suid-Afrikaanse Nasionale Trust en Assuransie Maatskappy Beperk—Kaapprovinsie
Mrs J. M. Unsgaard—Cape Province
Mr C. Vigne—Swaziland
Mr Humphrey Whitbread—England

OTHER MEMBERS

LIFE MEMBERS DENOTED IN CAPITAL LETTERS

CAPE PROVINCE

Abderhalden, Mrs B. D.
Abraham, Mr and Mrs J.
ABRAHAMS, MRS A. J.
Ackerman, mev. S.
Ackert, Mr H.
Acton, Mrs M. B.
Adams, Mrs E. V.
Adamson, Mrs R. H. B.
ADENDORFF, MR N. H.
Adler, Mrs S.
Afdelingsraad, Paarl
Agnew, Mr D. W.
Ainslie, Mr R. L.
Aitchison, Mrs I. M.
ALBERTYN, MR R. P.
Albrecht, Mrs A. E.
Albrecht, Mrs H.
Aldridge, Mr K. W.
Alexander McGregor Memorial Museum
Aliwal North Municipality
Allen, Miss A. M.
Allen, Mr and Mrs F. W. J.
Allen, Mrs M.
ALLISON, MR D.
ALLISON, MR E
Alt, Mrs H.
Anderson, Mr A. A. C.
ANDERSON, MRS E. J.
Anderson, Dr Joan
Anderson, Mr K.
ANDERTON, MR T. D.
Andrag, Mr F. P.
Andrag, mnr H. R.
Andrag, Mrs J.
Andrag, Mrs M.
Anson-Cook, Mr R. E.
Anthony, Mr G.
Anziska, Dr B. L.
Archer, Dr Graham G.
Armstrong, Mr G.
Armstrong, Mrs R. C.
Arnold, Mr J. H. P.
Arthur, Mr H. R.
Ashton, Mr C. R.
ASHTON, DR M. L.
Ashton, Mrs N. W.
Ashworth, Mr and Mrs H. G.
Atkins, Mrs A. C.
Atkins, Mr N. L.
Atkinson, Miss N. C.
Atkinson, Mr R. A.
Atkinson, Mr S. A. M.
Attwell, Mrs C.
ATTWELL, MR R. I. G.
Austin, Mrs J. G.

Austin, Mr and Mrs W. R. H.
Axelson, Mrs H.

Baard, Mr and Mrs C. J.
Back, Mr D.
Badnall, Mrs A. N.
Bailey, Dr R. A.
Bailey, Lady S. M. H.
Baillie, Mr R. C.
Baillie-Cooper, Mrs S. A.
Bain, Mr K. A. R.
Baines, Mrs M. A.
Baker, Col. H. A.
Baker, Dr T. C.
Bald, Mrs M. D.
Baldinger, Mr K.
Balfour, Mr A. H.
Balk, Mrs C. E.
Balkema, Mr A. A.
Ball, Mrs A. I.
Ball, Mrs M. M.
Ballantine, Mrs P. G.
Bam, Miss K.
Bam, Mrs Y. T. M.
Barbour, Mr J. F.
BARCLAY, MR LINDSAY
Baretta, Dr A.
Barichievy, Miss J.
BARKER, MISS W. F.
Barling, Mr D. F.
BARLOW, MRS P.
Barnard, mnr A. J.
Barnardt, mnr I. W.
Barnes, Mr E. L.
Barnett, Mrs M.
Barrett, Mr and Mrs E. A.
Barron, Rt. Rev. P. H. F.
Barry, Mrs D. M.
Barry, Mr and Mrs G. J.
Barwick, Mr and Mrs A. F.
Basson, Miss E.
Basson, mnr H. J.
Basson, Capt J. A. L.
Batchelor, Mrs A.
Bates, Mrs M.
Bathurst Horticultural Society
Batten, Mrs A. H.
Battenhausen, Mrs G.
Battenhaussen, Mrs M. S.
Batty, Mrs K. M.
Baumann, Mr D. L. Exner
BAUMANN, MRS F. E.
Baumbach, Miss L.
Baunach, Mr F.
Bax, Mrs K. C.
Baylis, Mr A. J. R.
Baylis, Lt. Col. R. D. A.
Bazeley, Mr C. P.
Beacom, Miss I.
Beams, Mr and Mrs L. J.
Bean, Miss Lucy
Beattie, Mrs B. E.
Becker, Mr C. G.
Becker, Mr J. A.
Becker, Mr W.
Beckett, Mr A. H.
Beech, Mr F. H. C.
Behr, Baroness E. W.
Bekker, Dr J. B.
Bell, Mrs Fay
Bell, Mr H.
Bellairs, Mrs. D. M.
Bellville Municipality
Benjamin, Mr A.
Bennett, Mr Paul A.
Bennetts, Mr B. J. E.
Benningfield, Mr C. J.
Bentall, Mr C. E. A.
Berezowski, Mrs H.
Bergh, Mrs M. D.
Bern, Mr Reg B.
Berrange, Mrs L. A.
Berry-Smith, Mrs R.
BERTISH, MRS D. R.
Beukes, Mr P.
BEZUIDENHOUT, MNR W. J.
BIDEN, MRS F. A.
Biesenbach, Dr E. T.
Bird, Miss E. K.
Birkett, Mrs M. H.
Birnbaum, Dr F. W. H.
Bishop, Mr B. W. S.
Bisset, Mr Leslie
BLACK, MISS G. E.
BLACKBURN, MR H. W.
Blackburn, Mrs J. D.
Blackburn, Mrs K. L.
Blackman, Mrs H.
Blacquiere, Mr J. F.
Blain, Mrs D. F.
Blaine, Mrs G. L.
Blair, Mr I.
Blake, Mr E. J. R.
Blankfield, Mrs M.
Bloch, Dr B.
Bloch, Dr C. E.
Bloem Erf Nurseries
Bloomberg, Mrs M.
Blumberg, Dr L.
BLUMENFELD, MISS M.
Boam, Mrs V.
BOCK, MISS S.
Boersma, mnr O. S. H.
Bohringer, Rev. J.
Bokelmann, Mrs H.
Bolus, Mrs M. J.
Booker, Capt E. P. C.
Boonzaaier, kol J. J.
Bootsma, Mr E.
Borchers, Mr R.
Borcherds, Miss M. G.
Borcherds, Mr W. R. R.
Boreham, Mrs A.
Borgelt, Mr K. W.
Bosch, Mr M. C.
BOSENBERG, MRS A. L.
Bosman, Mr D. J.
Bosman, Mrs J. J.
BOSS, MR J. H.
Botes, mnr A. J. J.
Botha, Mrs A. J.
Botha, Mrs F. N.
Botha, Dr G. S. Muller
Botha, Dr J.
Botha, Dr M. C.
Botha, Mr and Mrs M. G.
Botha-Reid, Mrs. F.
Botma, Mrs A. J.
Botma, Mr F. J.
Boulle, Mr V. A.
Bourhill, Mr H.
Bower, Mr E. W.
Bowles, Miss J. E.
BOWMAN, MRS J.
BOWSHER, MR L. F.
Boyd-Smith, Mrs S.
Boy Scouts Association, The
Bradley, Mr C. R.
Bradley, Mrs M.
Bradley, Mrs P. H.
Bradlow, Mr F. R.
Braithwaite, Mrs S. R.
Braunlich, Mr R.
Breezand Bulb Importers
Breeze, Mr E. B.
Bridgman, Mrs I.
Bridgman, Mr J.
Bridgman, Mrs M. A.
Bridgman, Miss Ruth
Brimble, Mr D.
Brink, Mr A. T.
Brink, Mr G. E.
Brink, Mrs J.
Brink, Dr S.
BRINK, DR V.
Brinkman, Mr J. F.
Brinkmann, Mr E. G.
Broadbent, Mrs M.
Brock, Mrs J. F.
Brodie, Miss P. H.
Broekhuysen, Prof G. J.
Bromilow-Downing, Prof B.
Bromley, Mrs E. M.
Brooks, Dr D.
Brooks, Mrs J. A.
Brooks, Mrs M.
Broome, Mrs
Brotherston, Miss J.
Brougham-Cook, Mr R.
Brown, Mr A. L.
Brown, Dr Helen
Brown, Mr J. L. P.
Brown, Mr U. O. A.
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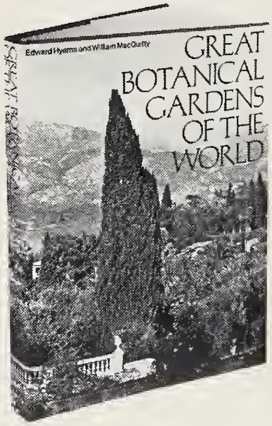
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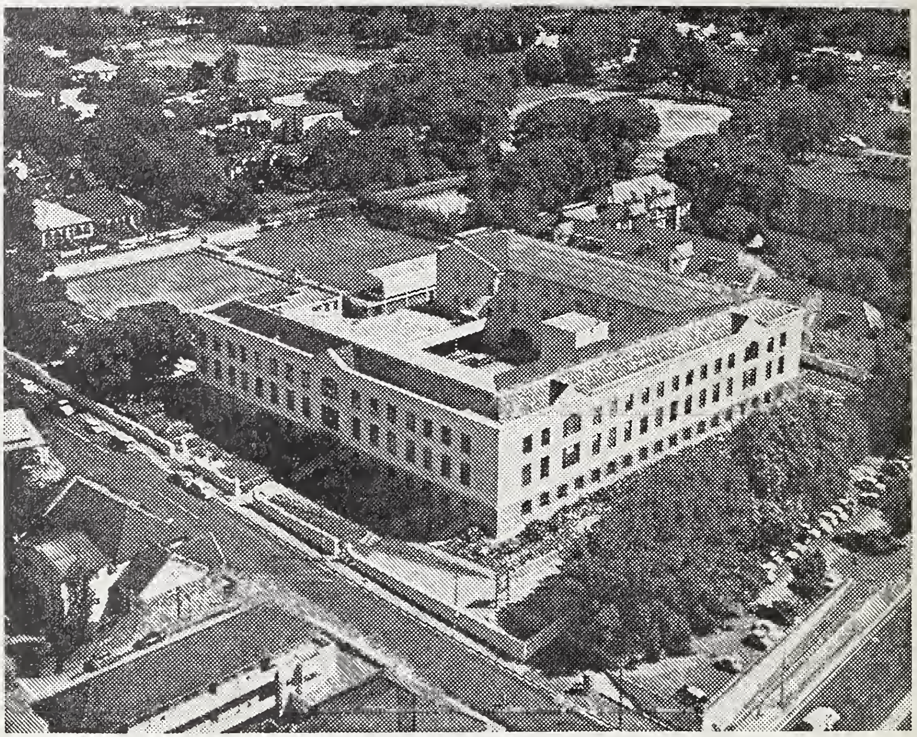

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